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The
Pennsylvania Medical Journal,

REPRESENTING

The Transactions of the Medical Society of the State of Pennsylvania at its Forty-eighth
Annual Session, held at Lancaster, May, 1898.

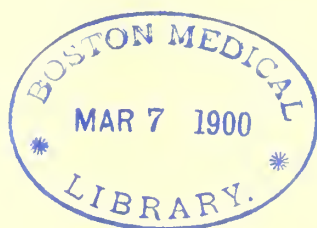


VOLUME XXIX.

[VOLUME II OF THE JOURNAL.]

ADOLPH KÖENIG, M. D., Editor and Publisher.

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The Pennsylvania Medical Journal,

The Official Organ of the Medical Society of the State of Pennsylvania.

VOL. II. }
No. I. }

PITTSBURG, JUNE, 1898.

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\$2.00 PER YEAR.

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DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION,

Denver, Colorado, June 7-10, 1898.

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DELEGATE TO THE MEDICAL SOCIETY OF DELAWARE,

Wilmington, June 14, 1898.

John B. Roberts, Philadelphia.

Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

Addresses.

[Delivered at the Meeting of the Medical Society of the State of Pennsylvania at Lancaster, May 17, 1898.]

ADDRESS OF THE PRESIDENT.

BY W. MURRAY WEIDMAN, M. D., OF READING, PA.

Honored Sirs, Ladies and Gentlemen and Members of the Medical Society of the State of Pennsylvania:

The occasion which brings us together this year is one of more than ordinary interest. It does more than commemorate the passage of another year of usefulness and increasing vigor. Let it be one of gladness and thanksgiving for the many blessings which the Creator of the Universe has permitted us as a profession to enjoy. But why are we here?

"List then awhile—for fifty years have sped."

The records of the Chester County Medical Society tell us that one of its earnest and zealous members suggested, in December, 1847, the same year that gave birth to the American Medical Association, whose golden jubilee we celebrated last year, in Philadelphia, that a convention of doctors be called. Acting upon the suggestion of the untiring Dr. Wilmer Worthington, our third President, the following preamble and resolutions were adopted, viz.: "Whereas no State Medical Society exists in Pennsylvania, and believing that such an institution would greatly contribute to the advancement of medical knowledge, therefore, Resolved, That it is expedient to hold a convention, at some time and place as may hereafter be agreed upon, to take this subject into consideration and effect a permanent organization as may be deemed best suited to accomplish the object in view. Resolved, That the Corresponding Secretary be directed to forward a copy of these resolutions to the different Medical Schools and Associations in the Commonwealth and solicit their co-operation."

Upon invitation of the Lancaster City and County Medical Society, fifty years ago, there assembled in this city, fifty-nine

(59) representatives from six (6) Medical Colleges, all located in Philadelphia, and twelve (12) Medical Societies, all that were known then to exist within the State, for the purpose indicated by the resolutions sent out from Chester County. As a result of their deliberations, "The Medical Society of the State of Pennsylvania" was formed. Conceived in Chester, and born in Lancaster.

The men who here assembled were those in high repute, not only in their vocation, but were active and influential leaders in their respective communities. Many, if not all, holding positions of honor and responsibility, were scholars of ability, recognized at home and abroad by marked attentions. Much could be written of the heroic deeds of these founders, during epidemics of smallpox, diphtheria, and scarlet fever, regardless of personal comfort, health and life, often overtaxing their strength, to benefit their fellowmen. Time will not permit to recount the many important individual services these pioneers rendered apart from their daily routine of professional life. Examine the medical journals and the local press of their day and you will find pages resplendent with the noble self-sacrifices and charitable deeds of these men from Chester, Lancaster, Berks, Bucks, Dauphin, Lebanon, Lycoming, Montgomery, Philadelphia, Schuylkill, Susquehanna and York. Examine the lists of delegates of the convention of 1848, you will find the names of the teachers popular in our medical schools and those who, as preceptors, formed and directed the opinions of many since enrolled in our list of active and permanent members. It would be a pleasing duty, did time permit to portray the work of that worthy and honored galaxy of which this society, yea our State, is so justly proud.

To some within the sound of my voice, many of these veterans, were personally known and honored, while the memory of all "living and dead alike forever dear," is held sacred in their respective County Med-

ical Societies, where their noble virtues, as teacher and preceptor, now as then, are revered; their wholesome advice and example are recalled and oft recounted with most pleasing recollection. Dr. Alfred Stillé, the Secretary of the Convention, and Dr. J. Augustus Ehler, of Lancaster, delegate to the first annual meeting, in Reading, are the only members permitted to live long enough to witness, the latter to participate in this, our Jubilee.

At Pittsburg, one year ago, the delegation from the Lancaster City and County Medical Society, noted for its progressiveness and hospitality, extended an invitation to celebrate our semi-centennial — our golden jubilee in this "Garden of America." We accepted, and have come with joyiul hearts to this "our Mecca," to renew our vows of allegiance—to compare our experiences—to increase our acquaintances—to profit from facts and observations of those who gratuitously bestow many hours of labor upon the unfortunates, who fill our great charities throughout the State, with every variety of disease, as well as the modes used for its cure and alleviation. At the same time we cannot repress the feelings of sadness, as we glance over the roster of these many years and note the changes that have taken place by the visitation of that dark-winged messenger, Death. Let us so improve our opportunities to make our lives useful—to leave behind us as imperishable a fame—that our day will not have been without purpose—be a record of a life well spent.

It becomes my duty to remind you that since our last annual meeting death has claimed among his victims sixteen of our members, whose hands and voices will no longer greet us as of yore, and lest Father Time may obliterate their memories as our roster will their names, let me here place them on record:

IN MEMORIAM.

Dr. Harrison Allen, Philadelphia, 1884.
Dr. John Cresswell, Clarion, 1875.
Dr. John B. Brooke, Berks, 1871.

Dr. A. F. Chase, Philadelphia, 1888.
Dr. Thos. D. Dunn, Chester, 1883.
Dr. C. R. Early, Lycoming, 1886.
Dr. Chas. L. Lyon, Lycoming, 1888.
Dr. Luther M. Lochman, York, 1881.
Dr. Frederick De Forrest Lamb, Susquehanna, 1888.
Dr. Isaac Massey, Chester, 1882.
Dr. S. E. Noll, Centre, 1897.
Dr. Theophilus Parvin, Philadelphia, 1886.
Dr. Wm. H. Smith, Lancaster, 1881.
Dr. Samuel S. Troth, Philadelphia, 1863.
Dr. G. W. Volger, Philadelphia, 1881.
Dr. J. E. Whiteside, Philadelphia, 1875.

"Their spirits have returned to God who gave them."

"Their praises I leave to other lips than mine."

Our progenitors declared that the objects of the Society "shall be the advancement of medical knowledge, the elevation of professional character, the protection of the interests of its members, the extension of the bounds of medical science, the promotion of all measures adapted to the relief of suffering, to improve the health and protect the lives of the community." They adopted the Code of Ethics of the American Medical Association, "the best ever devised for the government of medical men," and which from that day to the present has been believed to be perfect, incapable of improvement, especially regarding the principles regulating the conduct of physicians towards each other and defining the duties of physicians and the public. They also determined that delegates shall receive their appointment only from county societies—one for every five members—each delegate to produce a certificate of appointment from the president or secretary of his society before admission (making the solutions of the question of sex and color easy)—that each delegate shall be a permanent member so long as he conforms to the regulations of his county society and his county society to the regulations of this society. They gave the right and full au-

thority to each county society to adopt such measures deemed most efficient for mental improvement, for exciting a spirit of emulation, for facilitating the dissemination of useful information, for promoting friendly intercourse among its members and for the advancement of medical science. Each county society is required to hold at least two meetings in each year. The membership of all societies to consist of graduates in medicine from reputable schools—those who had been licensed by some board recognized by the state society or those who had been in practice more than fifteen years, but of good moral and professional standing in the place of residence, and must be regular practitioners, thus indisputably declaring that our society would not recognize any pathies, but would use all remedies, from whatever source derived, to relieve suffering humanity. The right of appeal is granted to each member, for grievances real or imaginary, to a board of censors, whose duty compels them to examine into the merits of each case, "to guard the rights of the individual and maintain the honor of the profession," whose decisions are final. The penalty for neglect or refusal to comply with the edicts of the state society is suspension and non-recognition of delegates during such delinquency.

With two exceptions, annual meetings have been held in one of the spring months (so as not to interfere with the meetings of the American Medical Association) until the adoption of the charter, when the date was definitely fixed—trying also to avoid consecutive sessions in the same county—the only exception being Philadelphia, "the mother city of Medical Science." The first failure to hold an annual meeting was when despondency pervaded the entire country in consequence of its integrity and union being threatened by the civil war, and again when the entire state was terror stricken by the terrible catastrophe at Johnstown. Under such circumstances our meetings would have been mockery, for our brethren

needed not only our sympathy, but our help. On both occasions the records of the Nation, State and Society attest to the promptness, ability and zeal with which our profession bore its part. Records of each meeting have been kept and published, which, since 1857, contain reports from the various counties in sympathy, replete with data concerning diseases peculiar to the different localities, with accounts of the outbreaks of epidemics, the causes which modify the health of communities, the proximity of rivers and lakes and mountain ranges, their extent and course, to which are added many important facts concerning the hydrography, topography, geology and meteorology of nearly every county in our state, with tables showing the temperatures, winds and rain, in fact all that relates to the climate of this grand old state, to say nothing of many instructive facts in surgery, medicine and obstetrics, as well as the experience with new instruments, remedies and indigenous plants, and also mortuary tables and notices of deceased members. These minutes and all our records are now supposed to be in charge of the Philadelphia County Medical Society, many of which are in bound volumes. Last year the society believing that its interests would be better served, determined to publish a journal, under control of the Publication Committee. In accordance with such resolve, the experiment has been made, and "The Pennsylvania Medical Journal" has been mailed monthly to every member of the county societies officially reported in good standing. We trust and firmly believe it to have been an advanced step, one permanent and never to be regretted. Experience is a slow teacher and we sometimes profit most by mistakes. Let me, as your presiding officer, impress upon you all, that the success of our venture will not depend upon the individual efforts of the editors. Let our Journal, therefore, be the mouthpiece not only of the city physician, but also of the country doctor. Our venture

is watched with much interest by our sister state societies. Let our best men contribute of their best work and thus make the internal appearance please and satisfy the student, as its external form has gratified his eye.

On a number of occasions the society has desired to designate a custodian of its archives and has even formulated rules for the convenience of its members. Nothing more has been accomplished than to designate the Philadelphia County Medical Society as the custodian. Outside of that organization, and possibly the former permanent secretary, I doubt if anyone can tell where the volumes can be found, much less how many complete sets of the transactions, etc., are owned by the society. Let me suggest that an effort be immediately made to procure five (5) complete sets of our transactions so that the creditable scientific work contained therein may no longer be entombed—let arrangements be made to place one set on the shelves of a library in Harrisburg, Philadelphia, Pittsburg, and Wilkesbarre. The other to be in the possession of the permanent secretary, all governed by such restrictions that we and our successors may have access, at all times, to them for reference and study.

In 1857, a delegate from this county,* with the hope of increasing interest and zeal throughout the state, suggested the presentation, at each meeting, of prize essays. But only at the meeting in Wilkesbarre, in 1866, did Dr. Wm. Mayberry, treasurer, announce that twenty-five (\$25.00) dollars had been placed in his hands "to be awarded as a prize to the author of the best essay on any subject pertaining to medicine or surgery, provided such essays be forwarded to Drs. King, Mowry and Green, by May 1, ensuing, each competitor to be known only by a motto, whose name was to be in a sealed envelope bearing the motto; as to the worth of any award the decision of the committee was to be unanimous and the name of the

successful author only to become known when the seal of the envelope was broken in open session of the society in 1867." This prize was awarded to Jean Baptist Ullensperger, of Munich, Bavaria, Germany. The subject was "Ancient Transfusion and Infusion compared with Modern Transfusion, Infusion, and Hypodermic or Subcutaneous Injections." Both the original in French and its translation appear in the volume of transactions of 1867. Dr. A. H. Gross, of Allegheny county, in 1867, "understanding that no regular fund existed in the Pennsylvania State Medical Society, devoted as a premium for prize essays," placed at the disposal of the permanent secretary the sum of one hundred (\$100.00) dollars, to be paid for the best medical essay presented during the year. It was accepted with the understanding that no essay should be received unless written in English or Latin. At the meeting in 1868, the committee on essays reported that the offer of Dr. Gross "had elicited no papers."

At the same meeting this committee (Essays) requested that two papers which had been "too voluminous for speedy decision," should be published in the transactions, viz.: "Diagnosis, positive and differential of Spinal Arthro-Chondritis," by Dr. Benjamin Lee, of Philadelphia, and "Food for Infants," by Dr. Hiram Corson, of Montgomery, both of which can be found in the transactions of 1868. Your president would most respectfully recommend that a cash prize be offered for the best History of Surgery, Medicine or Obstetrics in Pennsylvania—the same to be confined to what Pennsylvania physicians have contributed towards the advancement of these several branches.

As early as 1868 a form of charter was presented, discussed and adopted, after its enrollment on parchment, its perusal and examination by the Attorney-General of the State, and his endorsement "that the objects, articles and conditions herein set forth and contained are, in my opinion, lawful," it

* Carpenter of Lancaster.

was signed by the incorporators and presented to the Supreme Court for approval, a majority of whom ordered "that counsel be permitted to appear to show cause why the charter in question should not be granted," when it became "evident that no such charter as would enable the society to continue their existing organization and form, would be granted." The application was withdrawn and abandoned. In 1890, another committee was appointed to have the society incorporated. Since 1891 we have been working under a charter, such rules and changes in the Constitution and By-laws having been made as form and times required. Since the authority given the trustees and permanent secretary, in 1892, to provide a seal for the corporation, the matter has been overlooked, as there has been neither a suggestion nor device offered for adoption. The presiding officer advises that there be no more delay.

During the early years of the society's existence, its growth was slow. The number in attendance at the sessions "was respectable, disappointing in number and did not meet the expectations of its friends." Thanks to the zeal and devotion of the founders, and the perseverance and earnestness of the various committees appointed from time to time on the Increase of Membership, the fears of many of the early associates that the "project would end in failure," has been averted, the apathy of former years has been changed to enthusiasm, and we of to-day boast that the superstructure that our progenitors planned is on firm foundations, insured of prosperity, and usefulness; that we have a membership of 3,200, that delegates are sent from every county in the state except ten, and from most of these counties, physicians have enrolled themselves on the roster of an adjoining county.

In 1848, no hospitals existed outside of Philadelphia and Pittsburgh. In fact no provision had been made for the care of the indigent poor outside of the accommoda-

tions provided by the Directors of the Poor. During the last twenty-five years eleemosynary institutions have become so numerous that to-day few counties are unsupplied with hospital accommodations for the sick and wounded. Many have hospitals especially designed for the care and treatment of the insane, the aged, the orphan, the inebriate, the incurable, the consumptive, the epileptic and those afflicted with malignant diseases. Some sixty or more have been recipients of aid from the state, as recommended by the last Legislature, in sums varying from \$5,000 to \$200,000, or a grand total of \$1,500,000.

As is to be expected among those taking an active part in these institutions, we find the names of many whom we greet annually at these meetings. The questions that ere long will confront these Boards of Managers will be, "How can we maintain our institution when the state aid is withdrawn," and "Who shall compose the Board of Managers"?

The prime motive of all these charities is the mitigation of bodily suffering of the indigent, irrespective of cause, that is, whether the result of accident or the sequel of disease, and to afford the more prosperous laymen an opportunity to provide for the expenses in caring for the less fortunate. No one will to-day gainsay that these places of refuge are indispensable for those who are unable to pay for medical and surgical treatment, as well as for those able and willing to reimburse for every outlay in emergencies. Outside of Philadelphia and Pittsburgh none of the charities are connected with schools of medical instruction. In nearly all, the profession is fairly represented on the board of management as a compliment and a right, although this right is not always clearly embodied in the rules of government. During war times, physicians have had the sole charge of hospitals, and have conducted them economically, satisfactorily and with marked ability. When the locality, and site, the construc-

tion and form of building, the shape and arrangement of wards, the ventilation, heating and lighting, the furniture, the water supply, the location of kitchen, bath rooms, closets or laundry are under consideration, the advice of the profession is sought and heeded, yea deemed essential. The management ought to be composed of medical men to advise on the improved methods of treatment, medical and surgical, of the sick and wounded as well as the problems of quarantine and disinfection, who along with those gentlemen prominent in business, or from the other professions or the social circle, irrespective of religion, can grapple with the questions of charity, finance and support. It is essential for success, that the medical contingent should be conversant with the business affairs. The professional and lay contingents are dependent upon each other; the powers, functions and votes, medical and lay, should, must be equal, on all affairs scientific or pecuniary pertaining to the institution they manage. In this way alone can abuses complained of in our dispensaries be guarded against and corrected. By such composition of the management will the injustice lately secretly done many worthy medical men in our large cities, be prevented.

Another question of serious import will arise. Shall our hospitals be endowed? The state will some day curtail her grants and possibly eventually withdraw aid, unless the management can give strong and urgent reasons for further continuance of assistance. Complete endowment has lately been shown, not to be what the donors intended, therefore all bequests, large or small, should be accompanied, whether from state, denomination or individual, with a well considered, plainly worded stipulation. All such bequests should be guarded by prompt and careful investment to prevent encroachment upon the principal, to make the interest available at the earliest moment, and in such sums and manner to prevent the least

inconvenience and loss. Those institutions that are free from debt, after purchase of grounds, erection of buildings and equipment are fortunate, especially when in addition they have endowments sufficient to promptly pay the salaries and wages of employees. Any more, in any case, leads to extravagances and abuses known as the curses of charity, too often practiced by the public, overlooked by the staff, encouraged and sanctioned by the governing power. The public is ever ready to generously supply means for additions, repairs, sustenance and appliances when any necessity arises and is made known by a management reported prudent. Such necessities ought not to be recognized or demands satisfied, when hospitals advertise in the daily press for patients. Such action is as reprehensible to the standing of a hospital and its staff, as the code of ethics declares it to be on the part of a physician. Although to gain admittance into the wards of a hospital is made easy, it does not imply the right to usurp gratuitously the space, comforts and care intended for the suffering poor. Let those thus interested be careful not to act unwisely in their efforts to relieve suffering lest they grant indulgences, demoralize and pauperize their beneficiaries. Rather let it be your ambition that your hospital serves a better purpose than the presentation of a series of wards and rooms filled with sick, that it is in reality a haven of rest, a charity where benefits are promised and returned, only advertised by the results in cure or relief, or if you choose, by those "handmaids of mercy," turned out each year—your trained nurses—who demonstrate by the skill they have obtained under your tuition, that they are often able to coax back health to many run-down, worn-out constitutions.

Among the measures introduced at the first anniversary of our society was the subject of Benevolence—the formation of a "Medical Beneficial Fund," whereby pecuniary relief could be given members of the

profession, disqualified from attending to their professional duties by disease or accident, or their families in the hour of adversity, who, without such aid, might be "dependent upon the cold charity of the outside world." Although the general subject commended itself to the generous sympathy of every true hearted man, the society believed it a better and more prudent plan, owing to the imperfect organization throughout the state, for each County Medical Society to create, manage and disburse such funds, that the objects would be better obtained, as the local profession could better judge of the merits and claims of a professional brother or his family, who from any cause sought such relief.

Such organizations are in existence in Boston, New York and Philadelphia, and Kentucky; have been in England since 1835-36. They have not only relieved temporary distress, but have saved the families of many deceased physicians from penury and distress. In this, our semi-centennial, how can we more appropriately and practically commemorate the event than by the appointment of a committee of seven to consider the action of 1850? May we not hope that such an organization can now be effected and a fund gradually created to prevent, as far as possible, any distress in the households of those who in health have devoted their strength, energy and lives to science and the relief of mankind?

Another subject that occupied the attention of the profession in the early days of the society's existence and since, was the defects in medical education. Commencing with the student, it was recommended that all preceptors should be assured that such applicants "were of good, moral character, that they possessed a knowledge of natural history and an elementary knowledge of mathematics, as well as a good English education and such acquaintance with Latin and Greek as to be able to write and read a prescription," all of which is now changed, the student being required to present a

high school or college diploma, a certificate of a county superintendent of the common schools or stand an examination prior to matriculation. It was also recommended at that early date that the scholastic year be lengthened, for they believed the time in which to acquire a knowledge of the practice of medicine in its various branches was too short. Now, as you all know, four years are required, and the curriculum embraces adequate facilities for didactic demonstrations with hospital clinical instruction. The medical diploma, which in those days, and indeed until quite recently, was full authority to commence practice, is now treated as the diploma from a literary institution, only as evidence of having complied with all prerequisites, and must be supplanted by a license from the Medical Council, on recommendation of a Board of Medical Examiners, appointed by the Governor of the state, irrespective of any medical college.

To still further portray the zeal and perseverance of the leaders of our society, notwithstanding the trials and disappointments of their predecessors, a review of the transactions will show the frequent appeals made to the Legislature and others in authority for the enactment of laws looking to the better care and treatment of the insane, the feeble minded, the mute, and the epileptic, also for the collection of statistics by the registration of physicians, the registration of births, deaths and marriages, the establishment of boards of health, the protection of water courses from contamination, the protection against the ravages of epidemics of small-pox, the vaccination of school children and others, the legalizing of vivisection, also of dissection, the detection of adulteration of drugs and foods, the collusion of physicians and druggists, the punishment of the abortionist, the itinerant or tramp doctor, the sale of patent medicines, and the sale of diplomas, all to guard the interests of the public, to elevate the profession, to hand down to

our successors a society honored and respected throughout the Union, or wherever known.

The growth of our society has been steady, and as the inconvenience of travel, with the fatigue and expense incident thereto, has decreased, so have also the various excuses made in extenuation of indifference on part of the profession to assemble in friendly session vanished or been reduced to the minimum.

It has been alleged that there are too many societies independent of National, State and County organization, that many of them are lax concerning the admission to membership. It cannot be denied that in this new fear or lamentation there exists a grain of truth, but it must be remembered there exists no organization that has the authority to say how many societies shall be formed, when or in what part of the state.

Inquiry discloses the fact that some of these district associations only admit into their societies those who are members of county societies, while others admit only those who are vouched for by members who are in good standing and of good repute at home. Many who have stood aloof, who have been indifferent, who have been persistent, for reasons known to themselves, in refusing connection with any county or organization, have at length joined a district or local society, composed of professional men who recognize the Code, are governed by its principles and honor. Let it be hoped that such association will be one of the means of overcoming the jealousies and rivalries which are too common, which embitter life; that this communion will excite interest in our favorite organizations, will encourage lasting friendly relations with all those who have openly ranged themselves on the side of those who maintain professional honor, who uphold the Code, who willingly tell what they know or have discovered concerning the use of any recent discovery, theory, remedy or instrument in the several branches of our science.

The average physician, giving from one to ten hours for attendance at the meeting of the county society and perhaps has traveled in his buggy five, ten or more miles, will return home very much disgusted if "the fee bill" or "the code" are too often the principal topics for discussion. Too much business is transacted in session, which could and ought to be done and frequently more efficiently, by committee, is too frequently more than idle complaint, is made a justification for preferring an attendance upon meetings of the district society, even though that of the county could be attended with less trouble. Try a change of program, and note the result. Let every member of the county society resolve that it is a duty to contribute something in which he or she has been interested. Rely upon yourselves and not too much upon strangers to make your meetings attractive, an occasion when each member will try to communicate something, remembering that such intercourse with other minds not only "stirs up your own, but whets the appetite of each associate for truth." "Be ever ready to distribute, willing to contribute." Show those whom you think selfish, and who think the same of you, that every one is welcome. Demonstrate that those attending the meetings can learn something or are given an opportunity to impart information from their experience or the demonstrations or pathological specimens presented. Statistics and theories taken from standard works are not desired, and are uninteresting to the busy practitioner. A new instrument, magazine or specimen will be much more attractive. Short, practical essays, earnest discussions will be much better drawing cards than any elaborate research or minute recitation of facts or theories from Charcot, Rindfleisch, Gowers or the numerous text-books found upon the shelves in every doctor's office. Show that you encourage freedom of thought and speech, fight for supremacy only in this way—that you regard all as equals and

trust every one as such, even should there happen to be announced on the program one of the gentlemen, whom our efficient Committee on Increase of Membership have proclaimed willing to exchange opinions and form new acquaintances.

The wonderful changes in the theories and practice of our founders are of such comparatively recent date that they need no comment. What further changes the improved methods of investigation will institute, no human mind can predict. New fads, founded upon isolated ideas and opposed to the laws of nature, and obstructionists will arise, only to meet the fate of their predecessors.

"By their faults shall we know them."

Let us ever be watchful lest statements be admitted as facts that are unproven, are contrary to the "laws governing the generation, the growth, the development and life of the human body." Let us persevere in the course of our leaders in medicine to keep in touch with our advancing knowledge, in its different branches, remembering that skillful diagnoses, judicious medication and brilliant operations, if unrecorded are not available for comparison, that by the manner in which this duty is performed will we be judged. Let us always bear in mind that

"Marks of some kind will be made,"
and to

"Make ours while the arm is strong
In the golden hours of youth.
Never, never make it wrong,
Make it with the stamp of truth,"

is following the advice of our 10th president, Dr. John L. Atlee, viz.: "Conform our conduct to our maxims."

Acidum Aceticum Glaciale, U. S. P., is a colorless liquid with penetrating odor, at ordinary temperature. It is an excellent application for the removal of warts and other small abnormal growths, producing little or no pain.

ADDRESS OF WELCOME.

By HON. W. U. HENSEL, OF LANCASTER.

Mr. President, Gentlemen of the State Medical Society, Ladies and Gentlemen:—In this city of warm hearts and hospitable homes, where, for a century and a half the arts, the learned professions, and all the humanities have had generous patronage and brilliant exemplars—it is needless to speak words of formal welcome to your association.

The Medical Society of the State of Pennsylvania comes no stranger to Lancaster. It is native here and to our manner born. For a half century, its growth has been a part of our local history. If you congratulate each other upon the prosperity and success which have attended your organization, we none the less felicitate ourselves that, from the humble and almost feeble beginning in Lancaster fifty years ago, when three-score representatives of a few eastern counties assembled here, there has developed the splendid demonstration of to-day. The sapling planted then in this soil has grown to be a sturdy oak, deep rooted in the earth, wide branching to the sky.

That original and this semi-centennial meeting were no mean compliment to a community in which the medical faculty throughout its history has shone resplendent for learning, for skill, for a high sense of honor, and for brilliant achievement in every branch of the profession.

It is fit to recall, now and here, not only that the first president of the State Association was a Lancastrian, but that this city furnished, also, a vice-president, a secretary and a censor to the earliest organization. The ready memory of citizens not yet old easily recalls the honored names of Humes, Atlee, Kerfoot, and Muhlenberg.

Four times, in the choice of president, the favor of your society has fallen upon our community, and as often our gates have swung open to your annual meeting.

At least one survivor of the assemblage of thirty-nine years ago abides with us yet, remaining to-day the senior of the Lancaster faculty. Long may he be spared. (Dr. J. A. Ehler.)

I may be permitted to claim, without assuming too much, that the compliments thus conveyed have not been wholly undeserved.

The local medical association, which antedates, and, in a certain sense may be said to have been the progenitor of this society, has furnished, for a period longer than the life of either State or National Association, an unbroken succession of men pledged, by organized effort, to maintain a high standard of professional learning, ethics, medical education and knowledge "upon all subjects pertaining to the healing art"—bound, by every proper consideration, to protect the interests of the profession, and to cultivate amenity among its members.

The pioneers in medicine here—like the foremost element in our original citizenship and settlement—found refuge from religious proscription and scientific intolerance; and, from the days of Hans Heinrich Neff to the last record of the youngest practitioner, it has been conspicuously the strength of the medical estate in Lancaster city and county that it has transmitted, from one generation to another, and has cherished, as a rich family inheritance, the dignity of a true professional spirit.

Quacks and empirics there have been, of course, since the day when Dr. William Smith, "vagrant and impostor," was lashed from constable to constable, until Lancaster county justice set him on the east bank of Octoraro; but a hundred and eighty years of recorded medicine here have been irradiated by the lustre of such groups as the Kuhns, Brenemanns and Dufresnes; Burrowes, Watson and Houston; Winters, Raub, Zeigler, Luther, Withers, Deaver; Eberle, Leaman, Bruner, Cassidy, Musser, and Agnew; not to speak of a hundred individuals, living and dead, whose memory

and whose reputation will be long cherished.

While they have stood ever ready to discharge the debt they owe their own peculiar profession, none the less have they met and paid the obligations of complete citizenship; and, in the progressive development of our community, the physician has borne his full share.

In the marvelous strides of physical science since the organization of our country, medicine and surgery have reaped rich harvests. Ninety-six years ago, rival doctors in this city advertised their pretensions by claiming, the one to be equipped with six years' experience and study in the hospitals and schools of Germany; the other—and, possibly, the more successful—that he was "late from the Indian towns of the north-western territory." To-day, the increase of medical schools—of which there were scarcely a half dozen in the entire United States at the opening of the century—the special excellence of our Philadelphia institutions, the spread of medical literature, the invention of apparatus, the improvement of appliance, the power of closely-knit organization, and all the products of the prolific American genius, have made the remotest rural practitioner of the period familiar with knowledge that, to his predecessor of a century ago, was a stumbling block and foolishness.

Of all branches of science, that which deals with the prevention and cure of disease has compassed discoveries of the highest importance to the race; and, in our complex social order, nothing has made more for humanity than that they who practice the healing art have, with ear laid close to the earth, stolen, from her inmost recess, the secrets of nature; or, soaring with untiring wing and undazzled eye, into the very empyrean, have brought to dying man the unquenchable Promethean fire.

Recalling the closing century's discoveries in chemistry and physiology, biology and evolution, surgery and materia medica,

the beneficence of anæsthetic and aseptic, when one sends the all-piercing Roentgen ray into the always dim future, there open visions of such progress in your art and science as surpass the wildest dreams of ancient alchemist or Arabian fancy.

The gain, however, has been by no means exclusively—or even chiefly—that of the physician himself. His relation to the State and society has been vastly enlarged in its scope. The condition, the care and the cure of the defective, the dependent and the delinquent classes; the protection of the public health; the prevention of epidemic and the suppression of endemic disease; the orderly registration of marriages, births and deaths; to check the course, rather than to repair the ravages, of pestilence; to preserve water supplies from pollution, and to protect health-giving forests from devastation, are but a few of the concerns of the modern commonwealth in which the State exacts your service and receives your skill.

Here your functions touch the legislator and the lawyer; and, standing in this sanctuary, looking forward to the approaching annual meeting of a State Association representing another of the learned professions, I may be permitted to tender you the greetings of your brethren of the Pennsylvania Bar Association, co-workers on lines of liberal culture.

In the broad fields of medical jurisprudence and forensic medicine, we meet you on common ground; and, too often, I fear, we are placed at disadvantage. It was the witty observation of a great leader of the American bar, that ordinarily mankind gave itself away to three several professions; it confided its souls to the preachers, its property to the lawyers, and its bodies to the physicians; as, in its extremity, it thought more of the body than anything else, the physicians ruled in the end.

Between us there shall be no odious comparison nor sordid rivalry, and we are always quite content to save the "law," and let you take the "profits."

No finer tribute or more deserved compliment has been passed upon the medical profession than by the judgment of the highest legal tribunal of the land, when, in the case of *Dent vs. West Virginia*, 129 U. S., 114, the most learned and versatile justice of that court pronounced its unanimous opinion, defining the broad extent of the legislative powers of the States to regulate the practice of medicine and surgery. In part, he said:

"Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which health and life depend, and requires not only a knowledge of the properties of vegetable and mineral substances, but of the human body in all its complicated parts, and their relation to each other, as well as their influence upon the mind. The physician must be able to detect readily the presence of disease, and prescribe appropriate remedies for its removal. Every one may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill which he possesses. Reliance must be placed upon the assurance given by his license, issued by an authority competent to judge in that respect, that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society, may well induce the State to exclude from practice those who have not such a license, or who are found, upon examination, not to be fully qualified. The same reasons which control in imposing conditions, upon compliance with which the physician is allowed to practice in the first instance, may call for further conditions as new modes of treating disease are discovered, or a more thorough acquaintance is obtained of the remedial properties of vegetable and mineral substances, or a more accurate knowledge is acquired of the human system, and of the agencies by which it is affected. It would not be deemed a matter for serious discussion that a knowledge of the new acquisitions of the profession, as it from time to time advances in its attainments for the relief of the sick and suffering, should be required for continuance in its practice, but for the earnestness with which the plaintiff in error insists that, by being compelled to obtain the certificate

required, and prevented from continuing in his practice without it, he is deprived of his right and estate in his profession without due process of law. We perceive nothing in the statute which indicates an intention of the legislature to deprive one of any of his rights. No one has a right to practice medicine without having the necessary qualifications of learning and skill."

The high commission thus bestowed is not to be abused. While the rigor of the common law has been abated so that to-day the statute protects the physician in his professional property, collects his bill, and keeps inviolate his confidence, an enlightened public sentiment demands none the less exactly from him the maintenance of a high ethical standard, and the cultivation of a right professional enthusiasm; and no page shines brighter in your history as a society than its consistent condemnation of all secret nostrums, of unethical advertisements and of unscientific methods which purport to bring healing on their wings.

"Hardest of all, when art has done her best,
To find the cuckoo brooding in her nest;
The shrewd adventurer, fresh from parts unknown,

Kills off the patients Science thought her own,
Towns from a nostrum-vender get their name,
Fences and wall the cure-all drug proclaim,
Plasters and pads the willing world beguile,
Fair Lydia greets us with astringent smile,
Munchausen's fellow countryman unlocks
His new Pandora's globule-holding box,
And as King George inquired with puzzled grin,
'How—How the devil got the apple in?'

So we ask how—with wonder-opening eyes—
Such pygmy pills can hold such giant lies?"

The profession of the law in Pennsylvania is to-day rejoicing in the vigorous condemnation by one of its bravest and strongest jurists of the ways of champerty and the practices of the barrator. By all the traditions of your sacred calling, YOU are pledged to undying hostility to every form of empiricism, delusion and deceit.

It is the glorious boast of your profession that the lancet of Jenner saved more lives than the sword of Napoleon destroyed. It is its hopeful outlook to-day that

"prophylaxis—the prevention of disease—is a higher and more useful branch of medicine than therapeutics." He who enters upon the practice in that spirit of unselfish devotion, has before him broader fields of duty and grander opportunities of heroism than open to those who face the hot fire of opposing forts, or splinter hostile navies in a foreign sea. To him, the voice of the future speaks through the echoes of the past those gladsome words of the greatest physician-poet of our land and age:

"In life's uneven road,
Our willing hands have eased our brother's
load;
One forehead smoothed, one pang of torture
less,
One peaceful hour a sufferer's couch to bless,
The smile brought back to fever's parching lips,
The light restored to reason in eclipse,
Life's treasure rescued like a burning brand
Snatched from the dread destroyer's wasteful
hand;
Such were our simple records day by day,
For gains like these we wore our lives away.
In toilsome paths our daily bread we sought,
But bread from heaven attending angels
brought;
Pain was our teacher, speaking to the heart,
Mother of pity, nurse of pitying art;
Our lesson learned, we reach the peaceful shore
Where the pale sufferer asks our aid no more,
These precious words our welcome, our reward.
Ye served your brothers; ye have served your
Lord."

ADDRESS OF WELCOME.

By G. W. BERNTHEISEL, M. D., OF COLUMBIA.

Mr. President, Ladies and Gentlemen:—
In behalf of the Lancaster City and County Medical Society, it affords me unbounded pleasure to extend a hearty welcome to the Medical Society of the State of Pennsylvania, assembled in this its fiftieth annual meeting.

We believe that you will concur with us in the expression of the opinion that it is particularly appropriate that this Semi-Centennial Session of the State Medical Society should be held in the city of Lancaster,

since it was here that in the year 1848 the society was ushered into existence.

To-day, after the lapse of a half century, how proud we are of its magnificent array of unquestioned talent and ability. I am not here in the capacity of a panegyrist of the Pennsylvania State Medical Society, but who, surveying this large and cultured assemblage, can refrain from the expression of a passing thought of admiration?

We take great pleasure, upon this auspicious occasion, in confessing to you a pardonable pride in the history and personnel of our county society. It was incorporated in the year 1844, and, therefore, antedates the State Society. It has maintained a steady and active existence ever since, and has numbered amongst its membership men who have achieved prominence and signal success in the medical profession.

It is needless to particularize. As to those whose life-work has been ended, their intrinsic merit and wide-spread renown have become matters of history, the pages of which confer upon their memories the well-deserved homage which my feeble encomiums, however enthusiastic, could not adequately bestow. As to our present membership, numerically speaking, our roster shows 110 active members. Our meetings are held upon the first Wednesday of each month, and I am happy to state, they are well-attended, are interesting, and instructive. Our latch-string is always out. Come and see us!

As to our social side of life, we trust that your stay amongst us as our guests will enable you more fully and more favorably to determine that especial aspect of the question. We sincerely trust that your short sojourn in our beautiful inland city of Lancaster may be characterized by the most delightful and profitable associations, and that the memory of the Semi-Centennial Session of the Medical Society of the State of Pennsylvania may, in the future, call to your minds the happiest reminiscences of your busy lives.

Again, in the name of the Lancaster City and County Medical Society, permit me to extend to you all a most cordial and hearty welcome!

ADDRESS ON MEDICINE.

By H. S. McCONNEL, M. D., OF NEW BRIGHTON, PA.

The courage and kindness of your President in selecting one from a rural district to deliver this address, when so many of our members come from the very center of medical knowledge, and are the makers of medical history, I am afraid will be considered more friendly than wise. It will be impossible for me to instruct and entertain you as my illustrious predecessors have done; nor shall I attempt to give you a resumé of the newer methods of treatment brought forward during the past year, and emphasize those which have merit and eliminate those that are useless or dangerous, as has been the custom heretofore. In this our semi-centennial meeting it seems most fitting to review the past, and see if in our advancement we have not overlooked or failed to utilize some of the means at our command for the alleviation and curing of disease; if in our eagerness after the new we have not neglected the old. Progress in medicine henceforth must be gradual and cumulative, and it is our duty to see that those seemingly little things we have learned by long, and sometimes sad experience to be so helpful, are impressed upon the young physician. There are two branches to which I wish to call your attention, namely, Therapeutics and Dietetics. Therapeutics, Gould says, "Is that branch of medical science which considers the application of remedies as a means of cure," and the recent graduate in medicine comes forth with the impression that having memorized the maximum dose of the different drugs, and the special organs for which they have an election, that

he is fully qualified to combat all the disease that human flesh is heir to, forgetting that drugs represent but a small proportion of the power of therapeutics. As this branch of medicine is taught in most of our medical schools and text-books, the student is not instructed in the practical application of drugs. The young medical student, fresh from the halls of his alma mater, asked to give the dose of morphine, will say, from $\frac{1}{8}$ to $\frac{1}{2}$ grain, which is incorrect; it is from $\frac{1}{100}$ to one grain. The dose of a drug depends upon what you wish to accomplish. For the relief of severe pain you give the maximum dose of morphine and repeat only at long intervals, to relieve gastric or bronchial irritability, $\frac{1}{100}$ to $\frac{1}{20}$ grain, repeating frequently. When a number of physicians are assembled and give their individual experience and opinions on the use and application of the various drugs, one is surprised at the different results obtained under seemingly similar circumstances, by equally qualified practitioners; results that are apparently diametrically opposite, and yet, when critically analyzed, the size of the dose, the frequency of dose, fasting or otherwise is considered, the dissimilarity is more apparent than real. One will give magnesium sulphate for constipation, another this same drug for diarrhoea. The former may give one large dose, the latter small doses, frequently repeated. One will give large doses of digitalis in heart trouble; one small doses in disease of this organ. Both are correct; large doses of this drug increase the frequency of the heart's action; small, frequently repeated doses decrease it.

One will give digitalis when the arteries are empty; another when the arteries are full. Here again both are right, the former in mitral regurgitation, the latter in weak heart. State of the stomach, whether fasting or full, and condition of mucous membrane modify the action of drugs materially; when desirous of preventing gastric fermentation give your antiseptic immedi-

ately after meals, to prevent intestinal fermentation, antiseptic between meals, preceding your remedy half an hour with a cupful of hot water. When the tongue is enlarged and flabby, bitters and metallic salts will relieve this condition; when the tongue is red, with enlarged papillæ, these will do harm. Sedatives and antiseptics being indicated.

Quantity and quality of food consumed must be considered. A patient who is eating a large amount of wholesome and nutritious food, whose digestion seems perfect, bowels regular, and all the excretory organs doing their full duty, complains of feeling weak, tired and is anemic. Something more is required than iron and general tonics; these drugs will aggravate his trouble. For this non-assimilation a restricted diet as to quantity and quality must be rigidly enforced; arsenic and nux vomica before meals and a laxative at bedtime given.

I have endeavored to emphasize necessarily, in a somewhat arbitrary manner, in order to be brief, that the mere statement of a drug being useful in this or that disease was more confusing than helpful to the beginner, unless instructed as to the method of administration, frequency and size of dose, end to be accomplished, and influence of feeding and fasting. If properly impressed with the importance of these minute details, he will become systematic, careful and observant, and will not expect too much, nor too suddenly, nor will he on the one hand be guilty of overdosing nor drift into the all too fashionable therapeutic nihilism. There are occasions where heroic doses are required and must be given, yet the value of small, frequently repeated doses is being recognized more and more among the profession. While this form of administration is very beneficial, mentally it is a wonderful aid. A friend sick with la grippe, absent from home, called the best regular physician in a city, who wrote a prescription for some powders to be taken every three hours.

Away from home and friends, high fever, every portion of his body aching and sore, and a powder every three hours! He could not endure this, sent for the physician, who was not available, called another less celebrated, who told him to continue the medicine of first physician, dissolved some tablets in a glass of water, and of this he was to take a teaspoonful in four tablespoonfuls of hot water every half hour. "My, but this did wonders," he said. Comment is unnecessary.

Dietetics.—It is very evident that the time has passed when the physician can give to a patient suffering from one of the many forms of dyspepsia, muriatic acid and pepsin after meals, and tell him to eat only good, nourishing food, and satisfy an intelligent layman that he is giving him the up-to-date and scientific treatment for this gastric trouble. That most practitioners do not give the subject of proper diet the care and attention that it deserves, is due to the lack of early training—to the too little time given to instructing students in this most important branch of therapeutics in our schools, and to the fact that our text-books only mention it in a general way, and fail to emphasize the influence it exerts on the course of disease, and the assistance it can be made give our medicine. In all the severe forms of acute infectious disease, the value and necessity of supporting treatment is insisted upon. What is the generally accepted meaning of this so-called supporting treatment? Nothing more nor less than a free license to pour into the stomach, an organ which in all these affections secretes very little if any normal gastric fluids, all the liquid and semi-solid concentrated nourishment it will retain, every two hours. Nay, when fever is high and thirst great he may sup his milk every few minutes, treating this organ as a mere receptacle or reservoir where food can be stored and called upon by any part of this organism that requires nourishment, forgetting that ere this food reaches the impoverished tissues in a suit-

able form for their maintenance, it must have undergone the vital and complicated process of complete digestion. I use the word complete advisedly, for if the products of imperfect digestion are conveyed to the tissues, they are irritated, not nourished. By this therapeutic stuffing you overpower an already enfeebled organ, and produce a condition favorable for the development of the most deadly ptomaines. Prof. De Dominicis says, "The mysterious cause which transforms inoffensive bacteria passing harmlessly through the organism into virulent pathogenic germs is the failure of the digestive apparatus to dispose normally of the food. Even the simplest, scantiest diet will produce putrid decomposition if not digested and the alimentary canal becomes a toxin factory, and a fine culture medium for the germs to acquire virulence in and entail serious complication." He and others have proven that fasting animals recover more rapidly and without complication from all acute infections and severe traumatism than others in same condition, fed as usual, or much less than usual. Dr. Page, of Boston, has demonstrated that acute rheumatism will yield more readily to fasting and large quantities of hot water internally, than to our best anti-rheumatic remedies, accompanied with over-feeding. Fasting combined with our remedies and hot water is the ideal treatment for this disease.

Some prominent teachers and writers never miss an opportunity to ridicule the eliminant and antiseptic method of treating typhoid fever and the absurdity of attempting to render the alimentary tract aseptic. That it may be impossible to make this canal aseptic in the strictest meaning of the word no one will deny, neither will they deny that it can be made less septic. They might as well ridicule the surgeon who called to dress a wound, found the environment such that he considered it impossible to make his injury aseptic, yet makes and dresses it as aseptic as possible under the circumstances. Will not his results be far better than had

he taken no antiseptic precautions? And will he not often be surprised by finding, notwithstanding these most unfavorable conditions he will have no suppuration—positive proof that his wound was aseptic. So with the alimentary tract, they who strive in all cases of acute infectious disease to keep it aseptic, relying on antiseptics only as an aid, but guarding it carefully, and permitting nothing that is septic or that may become septic to enter this canal, will secure results that are incredible both in comfort to his patient and the brevity of his illness. These same gentlemen will warn their classes and readers of the possibilities and danger of auto-intoxication, and recommend the intestinal antiseptics and careful regulation of the diet. If alimentary asepsis is a myth and a delusion, then auto-intoxication is a very grave affection indeed, for we are helpless. Auto-intoxication is responsible for the tachycardia and semi-delirium that so often in typhoid and other allied diseases, follow after subsidence of the fever. When we fully realize that two-thirds of the cases that develop the typhoid condition are due to the absorption of the toxins, that are the direct effect of over-feeding, and that this condition in all acute infectious diseases is as much an evidence of improper treatment, as suppuration is of bad surgery, then, and not till then, will the value of therapeutic fasting be impressed upon our profession. When Tanner was making his fasting experiments Marion Sims cabled him: "Scientists are interested; fools only laugh." In that most fatal disease pneumonia the importance of intestinal asepsis cannot be overestimated, and a large number of death certificates in this affection should read, "Remote cause pneumonia; immediate cause, therapeutic stuffing; resultant, delirium and weak heart."

It requires boldness, firmness and self-confidence to withhold food five to seventeen days from a patient who has a raging fever which seems to be consuming him;

he will at first be doubtful, the friends restless, fearing exhaustion from starvation, but if you are true to yourself and do not hesitate or waver, and impress all with the fact that food is not nourishment when digestion is arrested, on the contrary a rank poison, you will soon convince them that you are right and they wrong. The little annoyance the patient is subject to, his freedom from gastric disturbance, and that he does not grow weak rapidly, all appeal to their intelligence, and though they may call you the "starving doctor," they will commend your method. Years of experience have convinced me of the value of therapeutic fasting and the danger of therapeutic stuffing, and I am confident any of you who will give it a fair and impartial trial, not a trial like the elderly member of our county society gave the clinical thermometer, who said he had used it on two patients, and both died, and he "would never use the confounded thing again," will soon discover that I have not been too enthusiastic. Granting to pathology, bacteriology, serum therapy and the newer remedies all they are entitled, if we would advance along the line, we must see that those young in the profession are properly instructed in the use and administration of drugs, that they are taught the importance of suitable food, the danger of over-feeding and that stuffing is not nourishment.

In Shock following abdominal operations, the following axiom is laid down: When a patient is put back to bed with a pulse of 140 and the heart shows no tendency to quiet down in twenty-four hours, the patient almost invariably dies, apparently from prolonged shock.—Keith.—(Medical Record.)

Dr. Wm. M. Welch, physician in charge of the Municipal hospital, Philadelphia, has been elected president of the Philadelphia Alumni Society of the medical department of the University of Pennsylvania.

Original Articles.

[Papers read at Lancaster, May 17th, 1898, at the meeting of the Medical Society of the State of Pennsylvania.]

ALCOHOL.

By JOHN M. BATTEN, M.D., of Pittsburg.

Alcohol in some form has possibly been used as early as times immemorial, and there has not been a nation on the face of the earth that did not use a stimulant or a narcotic. The stimulant has usually been alcohol in some form. Tobacco, opium, or hemp, in a few instances, have been used in its stead. Alcoholic beverages, however, when opportunity presented, were easily introduced. An example of this fact is given in the account of Henry Hudson's famous voyage in 1609, when he discovered the Hudson River. The Indian chief and warriors waited for him on the shore of Manhattan Island, prepared to sacrifice the great Manito in Red. Hudson landed with a few of his crew and poured out some rum into a tumbler and drank to their healths, then passed a cupful to the Indians, but they refused to drink, thinking it was deadly poison. One, bolder than the rest, however, was induced to drink, and he drank, then reeled, staggered, and finally fell. He soon recovered from its intoxicating effects and described the effects of the rum in such glowing terms that the rest of the Indians begged to have their share.

There seems to be a natural craving of man for something "that will drive away dull care," and alcoholic beverages seem to satisfy that craving. This is not only so among the savages, but it is actually true among the civilized nations, and they have a greater or less disregard of the evil of over-indulgence in the use of alcoholic beverages.

We find the earliest historic records of alcoholic beverages are passed down to us from the sacred classics of China, India,

Judea, and Persia, all giving full details of their use and abuse. The Chinese used wine made from rice something like saki, which at present is used by the Japanese.

The sacred books of the Brahmans speak of a beer known as sura, made from rice, barley and honey, and other ingredients. This was a cheap wine, and was in disrepute by the priesthood. Soma, a sacred wine made from certain plants after fermentation, was offered as libations to their favorite gods, Indra Vishnu, and others. This wine was drunk freely by the deities, and they were highly gratified at the resultant intoxication. In their worship they did not pour all the wine on the altar, but in their devotion they drank a part of it, and the exhilarating effect of it was credited to divine favor.

The Bible in places speaks of wine as, "Wine maketh glad the heart of man," "Thou hast put gladness into their hearts since the time that their corn and wine and oil increased," and so on. It is claimed by well intentioned moralists that the good effect of wine, as spoken of in the Bible, was from unfermented wine: and they have some reason for making such an assertion, as in the Hebrew Bible appear two words, yayin and tirosh, and each is translated wine. The use of tirosh is approved, while that of yayin is condemned. There is another Hebrew word, debish, which, translated, means honey. It is claimed that in making this honey that the fresh grape juice was boiled down to thick syrup before it was fermented. In Syria at present such a honey, called debs, is used for sweetening purposes.

The Greek word, oinos, meaning wine, that is used in both the Old and the New Testament, there is no reason to doubt but that it refers to the fermented wine, and the use of it was approved while its abuse was condemned.

The ancient Egyptians, at a very early date, discovered the art of making barley wine, or true beer, and also grape wine.

They drank these beverages in the presence of their families. We read of them drinking like beasts and being carried home from suppers on the backs of slaves. The women also became intoxicated.

The writings of the ancient Persians, the Zend Avesta, dating back 4,000 to 6,000 years B. C., contain many references to *homa* and *nura*: the former, a sacred drink, and the latter a popular one. Wine was a later discovery.

The Greeks knew best how to drink alcoholic beverages without getting drunk. They drank them very much diluted. It is, however, not to be inferred that they did not get drunk, but it was very uncommon among the people in Greece's Golden Age.

In the early age of Rome, the Roman people were an exceedingly temperate race, but as they grew in wealth and power the drinking habit increased with them till Rome fell.

We gather by the history of both Greece and Rome that as long as they practiced temperance in alcoholic beverages, that these nations increased in power and wealth, but as soon as they became intemperate, their power and wealth were dissipated. As with nations, so with individuals; in order to be healthful, progressive and successful, they must be temperate.

It is a remarkable fact, however, that alcohol itself was not discovered till after the downfall of the Roman Empire, and after the discovery it was not used for intoxicating purposes for many hundred years. Pliny, *Natural History*, written about 50 A. D., speaks of extracting oil of turpentine by boiling, from crude pitch and gathering the vapors on fleeces from which the condensed oil could be pressed. This likely marked the first beginning of the art of distilling, which slowly progressed for two hundred years later.

The art of distillation would have developed further, but the Emperor Diocletian, about A. D. 287, ordered the books of a flourishing school of alchemists to be de-

stroyed at Alexandria, and prohibited further studies in that line, fearing that the discovery of the philosopher's stone might be a menace to the Roman rule. The year A. D. 984, the famous Alexandrian Library was destroyed by the Mohammedan General Amru, at the orders of Caliph Abu Bekr. These occurrences no doubt helped to stop the progress of civilization some hundreds of years, and gave literature, science, and medicine a blow from which they yet have not recovered. It is interesting to speculate what would have been the conditions at present, if the discovery of galvanic electricity and the germ theory of disease had been discovered a hundred years earlier.

The fact of the matter is that owing to the events just mentioned having occurred, the study of science had to be commenced over again by the Arabians, under a more enlightened rule. We read of the famous Geber mentioning the term distillation about the close of the eighth century, but it is likely he knew little more about it than separating, by heat, two metals at different melting points. Albucasis speaks of the process of distillation in the eleventh century in less doubtful terms. It remained for two European alchemists, Raymond Sully and Armand de Villeneuve, in the thirteenth century, to clearly describe the method of distillation and the preparation, properties, and the uses of alcohol.

In view of the great amount of deserved abuse that has been heaped upon liquors, it is interesting to note that after the discovery of alcohol for some hundreds of years it was considered the most valuable product of chemistry. The old alchemists went wild over it. They admired the clear, smokeless and colorless flame with which it burned; they wondered at its power to dissolve resins, balsams, and oils; they used it as a preservative; they used it in the preparation of chemicals; and, above all, they used it as a medicine.

Aqua vitæ, alcohol, or water of life, as it

was called, played a very important part as a remedy in the treatment of disease. It was one of the most important medicines in the pharmacopœia of the day. It was used as a basis of all cordials and elixirs that men prescribed to the sick and feeble. These cordials and elixirs were considered a sort of cure-all. Each physician, each alchemist, prepared cordials and elixirs according to his own fancy, and claimed miraculous cures for his own particular nostrums. The basis of them all was alcohol. The monks, too, gave them out to the sick and feeble at their convent doors.

It seems singular that aqua vitæ was only used as a medicine and used as a medicine exclusively. Its intoxicating effects were little if at all known. Nowhere in the writings of Shakespeare is alcohol mentioned, except in *Romeo and Juliet*, where the old nurse sighs, "Oh, for some strong waters from Venice."

THE ICE-TREATMENT OF ACUTE PNEUMONIA.

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By the ice-treatment of acute pneumonia is meant the local application of ice to the chest over the consolidated lung area, for the purpose of modifying and abating the symptoms and morbid changes which accompany pulmonary inflammation. This then being the object, in what manner should the ice be applied? How often should it be renewed? How extensive should be its application? and how long should it be kept in contact with the chest? According to my experience, it is best applied in wide-mouthed rubber bags; but in the absence of the latter, I have used it wrapped in towels. Some have mixed snow with sawdust, or snow alone, wrapped in towels, and employed cold in this way. Per-

haps it does not make so much difference in what form we use the cold, so long as we obtain its best possible refrigerant effects. The one difficulty with the snow and ice, when confined in towels, is that when it melts it moistens and soaks the patient's clothing and bed. No fear that the patient may catch cold from this source need be felt, but it is uncomfortable for him to lie on wet clothing.

The size of the area which should be covered with the ice-bags depends on the extension of the inflammation. No matter how small the area may be, I think it is always good policy to apply two ice-bags, except in very young infants only one will often suffice. If the inflammation involves a whole lung, four or five bags may be usefully applied. If it extends over both lungs cover the whole chest, front and sides.

The number of times that the ice should be renewed depends very much on the degree of fever. Ordinarily one filling lasts from two to three hours, but I have seen the fever so high that the ice melted in less than half that time when it was first put on the body.

How long should the ice be applied? It should be continued until the temperature comes to or near the normal point to remain there. It is often difficult to tell, however, whether, if the temperature is depressed to the normal, it will remain there after the ice is taken away. If the ice is taken off under these circumstances, as is sometimes the case on account of a fear of producing collapse, the temperature may rise as high as it was before, and will be more difficult to reduce the second than the first time. So far as bringing about a collapse is concerned, there need be but little apprehension, but in order to withdraw the ice without a subsequent reaction in the temperature, it is best to do this by degrees, that is by taking one or two of the bags away at a time, and watch the result. If the temperature is not ready to remain down under these circumstances it will

soon show a disposition to go up, and if this is the case, more ice can be applied again.

Additionally to the ice on the chest, the application of one or two ice-bags to the head is of great value in case there is high fever, delirium and restlessness.

Among the beneficial effects of cold in pneumonia are diminution of the respiration frequency, reduction of fever, relief of pain and distress in the chest, and promotion of a general feeling of well-being and quietness. The heart is also toned up and subdued in its action. Aside of these effects, it also has the power of checking the extension of the pneumonia process in the lungs, and of bringing about resolution. This influence has been witnessed by others, and often by myself. I believe it also cuts short the disease in not a few cases, and I furthermore believe that it often obviates a crisis and so saves the patient from the profound shock and threatened collapse which frequently accompany the sudden fall of temperature at this period of the disease. This is a point of great practical importance.

Objections have been made against the use of local cold on the score that its refrigerating effects do not extend deep enough to influence the underlying lung condition, and that for this reason the effects of cold general baths are equally efficacious. My practical experience with the local use of cold always led me to believe that this position is an erroneous one; and the experimental work of Dr. Schlikoff, published in *Deutscher Archiv, fur Klin. Medicin*, vol. 18, p. 577, but of which I knew nothing until recently, confirms this view. Dr. Schlikoff found that by introducing a thermometer into different organs and cavities of the body, and applying ice externally at the same time, the local temperature sank in most instances a number of degrees, while the axillary temperature either remained stationary or fell but slightly. Thus by applying the ice-bag to the

cheek, while the thermometer was in the mouth, the temperature fell nearly four degrees in one hour. In the hollow of the hand, while the ice was applied on the back, it fell five degrees in one hour. Introduced through a fistulous opening into the pleural cavity while the ice was applied to the chest, it fell over three degrees in one hour. In the vagina, when the ice-bag was applied over the pubic arch—the distance between the thermometer and the ice being 7 cm.—the mercury fell .80 degrees in an hour and a half. These experiments show, therefore, that local cold penetrates a considerable depth beneath the surface to which the ice is applied, and make it evident that its physiological action differs materially from that of general baths.

Among the practical advantages of ice over other local applications to the chest, like hot poultices, etc., are, in the first place the readiness with which the cold may be applied and changed without disturbing the position of the patient's body; and in the second place, the facility with which the chest may be examined without removing more than one or two ice-bags at a time. The latter is of special importance, inasmuch as it gives an opportunity for the frequent examination of the chest in this disease which, owing to its tendency to quickly migrate from one spot to another, shows that it is a perfidious disease.

Concomitant Treatment. Besides the local use of cold to the chest and head, strychnine is to be given by the mouth in doses ranging from 1-24 to 1-16 of a grain, four times a day; morphine hypodermically in quarter of a grain doses at night to produce sleep; quinine as a tonic; the salicylates in combination with salines in order to counteract any rheumatic complication that may be present; capsicum in large doses to relieve delirium, dry tongue and great depression; and freshly expressed beef juice, milk, etc., as nourishment. Oxygen by inhalation is to be given for the purpose of relieving dyspnoea and cyanosis, and if this

fails, to relieve these symptoms open a vein and bleed the patient.

DISCUSSION.

Dr. Judson Daland, Philadelphia:—I question very much the ability of cold to cut short an attack of acute croupous pneumonia. I would also like to know how resolution is aided by it, and how extension is prevented. One other point that is not clear to my mind, and that is in reference to the influence of cold upon the deeper structures. I have made no experiments along this line myself, but from the experiments made by others, I am led to believe that the effect of cold applied externally is practically nil upon the central temperature.

Dr. H. S. McConnell, New Brighton:—I think we owe Dr. Mays a great deal for having the courage to try cold in the treatment of pneumonia. I do not think there is any treatment that can compare with the ice treatment in pneumonia. While I recognize the benefits of this treatment, I do not agree entirely with the doctor's theory. I do not believe that cold in pneumonia does good by its local effect at all. I think it does good in the same manner that a cold bath does in typhoid fever. The good effect is produced by increasing the resisting power of the system, and it is a tonic to the nervous organization. In my own experience, I have produced better results in the earlier stages of pneumonia by applying cold towels around both lungs; and in applying cloths, it is important that it should be linen cloth. After the first twenty-four or forty-eight hours, I think the ice-bags will do well. This treatment does good not only in croupous pneumonia, but in catarrhal pneumonia it is unquestionably the best treatment we have.

Dr. S. T. Davis, Lancaster:—I have had no experience in the treatment of pneumonia with cold applications to the chest. I have no doubt, however, that the theory is a good one to a certain extent. I would like to ask Dr. Mays one question. What is the character of the pulse during the treatment of pneumonia by cold applications to the chest? If the contractions of the heart are not reduced, the blood is being pumped into the organ, and this will most assuredly favor congestion and an extension of the inflammatory activity.

Dr. G. W. Hiatt, Pittsburg:—Very many cases of pneumonia do not need any treatment at all. I would like to ask Dr. Mays if he would apply ice to all cases? The cases which do not terminate by resolution are the most troublesome cases we have. Would the ice treatment bring about resolution, and a favorable termination of the case?

Dr. P. J. Roebuck, Lititz:—I know very well what Dr. Davis is driving at. I do not wish to speak about this special ice treatment of pneumonia, but of the heart's action in this disease. I would like to ask Dr. Mays if he has compared the results of the ice treatment with the effects of *veratrum viride*? This remedy is certainly a very valuable one in bringing down the pulse, but if this drug is used, we must be sure that we use the proper preparation.

Dr. S. Birdsall, Susquehanna:—I have been very much interested in the paper and in the discussion. There is one objection to the ice treatment which has not been brought out, and that is the danger of inducing an extension of the pneumonia to parts unaffected. This point deserves consideration when we consider the important part cold plays in the original cause of the pneumonia itself. I believe that if cold compresses were applied to the chest of some persons under favorable condition, that it would cause pneumonia. Therefore, if cold is a factor in causing pneumonia, if cold compresses are applied in a case of this disease, would it not rather favor extension to a part of the lung not already affected?

Dr. S. Solis Cohen, Philadelphia:—I have debated this question with Dr. Mays several times before, and he is perhaps familiar with the point I am about to raise. I do not think we can treat pneumonia by name, or any other disease by name.

Some persons who have an inflammation of the lung, have an entirely different morbid condition than other patients who have an inflammation of the lung. Some patients may have a toxic condition of the system associated with the inflammation. Other patients have other morbid conditions associated with pneumonia. Now it is possible that in certain cases, when patients have febrile symptoms and consolidation that application of ice may help the patient to recovery. In other patients, as I have had occasion, unfortunately, to observe, the application of ice may have an adverse influence, and the patient not recover. The important point to bring out is exactly what conditions call for the application of ice and the conditions forbidding its use in pneumonia, I think the application of ice will be productive of harm in the treatment of many diseases which are grouped under the head of pneumonia. I think its use is contra-indicated in many forms of pulmonary inflammation, in toxemia, in the aged, in the terminal stages of diabetes, or in terminal nephritis. I think Dr. Mays will help his cause by confining his treatment to cases of acute lobar pneumonia in robust young people, and by dif-

ferentiating his cases rather than by grouping together all forms of pneumonia.

Dr. Mays in closing the discussion, said: In answer to some of the questions which have been asked, would say that we cannot explain everything. We see many things, but we cannot give reasons for them. Whatever may be the actual influence of cold, I feel confident that ice properly employed will cut short a pneumonia. It circumscribes the pneumonia, and it reduces the fever. It is not so much to the point how this is done, as the fact that it is done, and I have seen it done over and over again. Not only have I seen it done, but others have. I think we have sufficient evidence that the application of ice is soon followed by the clearing up of the lung. In my opinion it cuts short the inflammatory processes in the lung. I think that the ice, that is, the influence of the cold, extends deep down in the lung, and that this fact has been proved by experiments. One observer states that the influence of the cold extends down from 5 to 6 or 7 centimetres into the body. Dr. McConnell, while he endorses the use of cold applications, and I know he has treated cases of his own very successfully in this manner, believes that the effect is not a local, but a general one. So far as my observation goes, I do not see this in the same light as he does. I have found that the general application of cold does not modify the local condition.

Dr. Davis inquired about the pulse. The character of the pulse in pneumonia is one of low frequency, and perhaps bounding character, although it has no absolute clinical character. The pulse is a low one, bounding in character, with a low tension in the earlier stages. In the later stages, the pulse becomes hurried, frequent, quick, and shows a tendency to collapse of the heart and also of the patient. Now cold reduces the frequency of the pulse in both the earlier and later stages of the disease. Dr. Hiatt makes the observation that many patients need no treatment—that they get well without any treatment. This, of course, is undoubtedly true, and I think that it is not taken into consideration as often as it should be in testing different remedies. We use one remedy, and the patient gets well. The recovery is at once set down to the use of the remedy. I think this is wrong.

My observation shows that 85 per cent. of the cases get well without any treatment whatever. But what will save the 15 per cent.? That is the point, and in this proportion of cases I believe ice is the best treatment. I would say that I apply ice in all cases when a pneumonia exists with high temperature. I do not mean to say

that I apply it to old persons, with subnormal temperature.

So far as *veratrum viride* and drugs of that class are concerned, I do not believe in any of them. Dr. Birdsall asks the question as to whether or not the cold has a tendency to push the disease to new fields; that is, to extend it to new areas in the lung. It has been my experience, that you can check the spread of the disease by applying the ice bag above the diseased area and below it. Dr. Cohen's theory I have heard before, that no one line of treatment should be pursued in the treatment of any disease. I beg leave to differ with him. I would like to ask him if whatever the variety of the pneumonia, if the fundamental conditions are not the same? Is not there always engorgement of the pulmonary capillaries? I know of nothing which will strike more surely at the root of this pathological condition, and relieve the disease than cold, and I know cold will do it. I believe venesection will do it. If we can relieve this condition, it is all that can be done in the treatment of pneumonia.

TUBERCULOUS CIRRHOSIS OF THE LIVER—STUDY OF A CASE.

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A search in medical literature has revealed a dearth of articles and opinions on this subject, save of the most meagre and unsatisfactory kind. We read of cirrhosis of the liver, atrophic, fatty, hypertrophic, and syphilitic—the first three conditions following largely the use of alcohol—but little is said of tuberculous cirrhosis of that organ. Whether because of the difficulties of diagnosis; or its constant association with tubercular lesions elsewhere, which overshadow it; or of the apparent ineffectiveness of therapeutic measures, I know not, but the truth is that it occupies a very small place in medical literature, and perhaps justly so. While cirrhosis of the liver of this type may have purely an anatomical interest (Osler); or when tuberculosis of the liver exists it may be associated with cir-

rhosis (Wood and Fitz); and while such lesions of this organ, as a rule, exhibit no special symptoms, because the symptoms of the primary affection predominate (Semmola and Gioffredi); a clinical study of the following case, together with the necropsy findings, will, I think, convince us that there are times when a recognition of this condition is possible, and may prolong life, at least for a short time. There is only one regret to make in reporting this case, and that is that microscopical sections of the liver were not made, to confirm what was very apparent macroscopically, viz., cirrhosis of a marked type.

Mary B., 21 years of age, negress, married, and mother of one healthy living child, was first seen August 27, 1897. A brother and a sister had died of pulmonary tuberculosis. She gave no history of alcoholism nor syphilis, and while never robust, had had no prolonged sickness; but since the birth of her child, she had not been as well as usual. About nine months previous she had an attack of abdominal pain of moderate severity, with diarrhœa, which has been more or less persistent. At the same time she developed a slight cough and spat up a small amount of blood (supposed to be from the lungs), after which she ceased to menstruate and pregnancy was suspected—on account of which she applied for admission to the hospital. On examination, emaciation was marked. Temperature was slightly elevated (subsequently it showed great diurnal variation, but was not accompanied by sweats and chills). The pulse was rapid and weak. The respirations were hurried and shallow. The mucous membranes were very anemic. The pupils were normal, but the scleræ were slightly jaundiced. The tongue was coated and tooth-marked, but anorexia was not present. The chest was of the phthisinoid type, and a careful physical examination gave no positive signs, there being only impairment of breathing over both lungs—the expectoration was scanty and mucoid, and showed

the presence of diplococci and streptococci, but no tubercle bacilli. The heart sounds were weak, but free from murmur, while anemic murmurs were present in the vessels of the neck. The abdomen was greatly distended with fluid, and measured in dorsal decubitus as follows:

Circumference at crests of ilii	72 cm.
“ “ umbilicus.....	74 cm.
Height above the pubes.....	7 cm.

In the erect posture the dullness extended 13 cm. above the symphysis. The distension was uniform, dull in the flanks and movable. When the patient made an effort to rise, there was a suggestion of adhesion on each side of the recti muscles. The veins over the abdomen were distended. There was continuous slight pain and tenderness, especially over the liver, as well as dyspnoea and distress from the size of the effusion. Liver dullness could be distinguished to the margin of the ribs. There was diarrhœa—three to five loose and very offensive stools a day. Urine was normal. Urine and feces were not examined for the bacillus of tuberculosis. Nothing abnormal was recognized on vaginal examination—the uterus was not pregnant. There was general glandular enlargement and slight edema of the ankles. There was no tubercular involvement of the larynx. One week after admission, she had an attack of hematuria, all evidence of which disappeared in a few days. The measurements of the abdomen at this time were as follows:

Circumference at crests of ilii.....	71 cm.
“ “ umbilicus.....	73 cm.
Height above the pubes.....	7 cm.

In the erect posture, the height above the pubes was 12 cm. Thus in a short time there was a slight decrease in the effusion under medical treatment. The patient continued to improve for a few days longer, then grew suddenly worse and died in a few hours.

AUTOPSY.

This was performed about two hours after death.

Lungs.—On opening the thorax there

were found dense pleuritic adhesions over both lungs, with a few miliary tubercles at the apices, between the lobes and scattered through the substance of both lungs. There was no marked involvement of either apex, and no cavities. Hypostatic congestion was present.

Heart.—This organ was the seat of old fibrous pericarditis, and dotted with small tubercles, especially around the aorta; tubercles were also found in the heart muscle.

Abdomen.—The abdomen contained several gallons of clear ascitic fluid, and along the intestinal canal, from the duodenum to the colon, were numerous tubercular ulcers.

Liver.—The liver was pale, small, constricted, and presented over its surface many small tubercles. There was well-marked perihepatitis, binding the organ to the diaphragm, abdominal walls, and the colon. On section it was dense, gritty and resistant, and no cavities were found, but both lobes contained numerous miliary tubercles.

Stomach.—Free from infection.

Spleen.—This was enlarged, and on section, here were found the largest tubercles, some suggesting caseation rather than fibroid change, but no cavities.

Kidneys.—These were of the large white variety and suffered from the general tubercular infection.

Peritoneum.—This serous surface had remarkably few tubercles on its parietal portion, confined principally to the pelvis and to the hepatic area.

Mesenteric and retroperitoneal glands were enlarged; tubercular pus tubes of large size were present, with a few tubercles on the serous covering of the uterus.

Pathological Diagnosis.—General chronic miliary tuberculosis, with cirrhosis of the liver.

REMARKS.

Etiology.—The primary cause of course is the tubercle bacillus which invades all parts of the body through several avenues of en-

trance. We read of and see in our work, cases of cirrhosis, in which alcohol as a cause is very apparent, and which die of tuberculosis, often acute. But in the present case we undoubtedly start with a tubercular cause and end with the predominate symptoms those of cirrhosis. The tubercles formed by the invasion of the bacilli tend in their development either toward caseation or to the excitation of fibroid changes, depending possibly upon the virulency of the infection or the resistance of the tissues. We have all seen, post-mortem, healed fibroid lesions at the apices of the lungs—the patient dying from some other cause. There is here no history nor evidence of alcohol or syphilis, but clearly one of tubercular enteritis, beginning nine months ago.

Course of Invasion.—While impossible to say positively, the course followed in developing the general tubercular condition, the gross lesions seen at the autopsy with well-marked enteritis and cirrhosis, were somewhat suggestive. The pyosalpinx; the large intestinal ulcers, most conspicuous in the lower ileum, with colonies of tubercles on their peritoneal surface; the enlarged mesenteric glands; the perihepatitis and cirrhotic changes in the liver; the similar condition in the spleen; the slight but positive involvement in the heart and lungs, with adhesions in the pleuræ and pericardium; and lesions also in both kidneys, form the chain of a course of infection which is possible and strikingly probable. May not this course of infection be more frequent than generally supposed; perhaps sometimes interrupted by the removal of tubercular pus tubes.

Morbid Anatomy.—The distribution of infection is often, no doubt, through the blood, as shown in the lungs in this case, by a bilateral, multilobular invasion. But little change from the normal was seen in either lung, except a few miliary tubercles on the surfaces between the lobes and on section. Hence primary infection hardly

came through the respiratory avenue, as the apices were not conspicuous by a greater involvement than elsewhere. The pleuritic adhesions, however, were dense, and extended entirely over both lungs, particularly over the bases. Interesting features are the marked pericarditis, unsuspected during life, and the presence of colonies around the aorta, as well as the tubercles in the heart muscle. The valves were free from disease and no evidence of embolus was seen in any organ. A careful examination of the stomach revealed no tubercular lesions which is consistent with the recognized opinion of the involvement of this organ in general tuberculosis. The irregular and circling ulcers, characteristic of tubercular enteritis were very abundant in the *small intestine*, extending almost to the duodenum, but not present in the colon nor rectum. Some of the ulcers were 3 cm. in diameter and the necrotic process extended through the mucosa and muscular layers down to the serous covering, but nowhere did perforation exist; fibroid formation walling them off from the general peritoneal cavity and making them feel hard and indurated. It is surprising what extensive ulceration can exist without perforation throughout this canal. At no time had there been any hemorrhage from the bowel. Consistent with the symptoms, the liver had been the seat of the most aggressive invasion. The perihepatic adhesions were almost cartilaginous in character, requiring dissection with a knife to remove the organ. The small size and deformity was no doubt due largely to this condition, as well as to the contractures in the liver itself. The small, hard, pale viscera, gritty and resistant on section, testified to marked fibroid change. There were no large lesions, but on the under side of the organ and throughout its substance were many miliary tubercles. This condition causing portal obstruction gave rise to the abdominal effusion and not the chronic tubercular peritonitis concomitant with it. The large

amount of fluid, clear and serous, with no shreds, pus, blood, nor adhesions, bore testimony to effusion and not inflammation.

The spleen undergoes fibroid change in hepatic cirrhosis, but here it was enlarged, rather more friable than normal, and contained many small tubercular areas. The organ seemed more congested than cirrhotic. The large white kidneys presented lesions confined principally to the cortical substance. Invasion here pointed to the pathway of the blood and not to the genito-urinary tract. Hematuria was present only once, and for a short time, and the hemorrhage was, probably, rightly attributed to the hepatic cirrhosis, rather than to the presence of tubercular invasion of these organs. The uterus, which is said to be rarely affected, presented the interesting feature of tubercles on the cornua, no doubt infected by continuity to the pus tubes. The tubes on section contained a large amount of tubercular pus. In one ovary was found a small cyst of clear fluid. The mesenteric and retro-peritoneal glands, while prominent, did not form large masses sometimes described in tubercular peritonitis. There being no symptoms pointing to the involvement of the cerebro-spinal nervous system, the meninges were not examined.

Symptomatology.—Effusions of large size, confined to the abdominal cavity, always suggest obstruction to the portal circulation, and point to the liver as the most frequent seat of lesions and cirrhosis of that organ as the most frequent condition. The small organ, best studied after the reduction of the ascites, would indicate the atrophic type. Slight jaundice, tenderness and pain more marked over the liver, hemorrhages from other organs, and enlarged abdominal veins, are all symptoms of this disease. The age of the patient, the history including tuberculosis and excluding alcohol and syphilis, and the presence of tubercular enteritis, serve to indicate cirrhosis of tubercular origin.

Diagnosis.—The only condition from

which this disease is to be distinguished is chronic tubercular peritonitis, with effusion. In the latter, the effusion is usually small, often sacculated with fibroid adhesions and matted masses, suggesting abdominal tumors. The liver is of normal size, there is no jaundice, if pain and tenderness exist they are diffused over the abdomen and the process is usually more chronic, and it may be associated with very few symptoms. Chronic diarrhoea, colicky pains, diffused tenderness, emaciation and hemorrhage from the bowels, denote tubercular enteritis. Of a less severe type, as regards symptoms, tubercular enteritis existed here, but was overshadowed by the symptoms of hepatic cirrhosis.

Prognosis.—Ultimately fatal; but for a slight prolongation of life, possibly promising.

Treatment.—Of primary importance is relief from the effusion when it is large, preferably by tapping the abdomen. If co-existing intestinal adhesions should be suspected, and conservative medical treatment fail to give relief, possibly laparotomy, as for tubercular peritonitis, should be advised. In this case, a surgeon saw the patient in consultation, with the expectation of performing a laparotomy. The slight improvement under medicinal treatment, the advanced stage of the disease, and her general physical condition seemed to contra-indicate surgical interference. The suggestion of adhesions when the patient changed to the upright posture, and which, at the autopsy, proved to be in the abdominal walls and not in the peritoneal cavity, deterred us from doing even paracentesis abdominalis, which is much to be regretted. Had the condition been more clearly and definitely diagnosticated, and tapping or laparotomy performed, we believe the patient's life would have been prolonged. The treatment consisted of bismuth sub-nitrate for the enteritis; potassium iodide for the effusion, with stimulation and selected diet.

The patient was only under our care for eleven days.

CONCLUSIONS.

1. Tuberculous cirrhosis of the liver is a distinct condition.
2. The condition presents at times a fairly distinct symptomology.
3. The symptoms are those of atrophic cirrhosis, accompanied by evidence of primary tubercular infection elsewhere.
4. Importance must be attached to the age of the patient and the history of the case.
5. The size and character of the effusion are the most diagnostic features.
6. Infection from tubercular pyosalpinx is, perhaps, not an infrequent cause of general tuberculosis of the abdominal viscera and peritoneum by contiguity of distant organs through the blood.
- 7 The condition is evidently incurable.
8. When the effusion is large, surgical interference, by careful tapping, or by laparotomy, if co-existing intestinal adhesions are suspected, is the only treatment toward prolonging life.
9. This case does not agree with the one reported by Duke, of spontaneous cure by adhesions forming with the abdominal wall and thus completing the collateral circulation by an anastomosis of the vessels. Nor the one reported by Morrison, upon whom he operated, stitching the anterior surface of the liver to the abdominal wall. But the etiology of the cases was different, both the above being presumably of alcoholic origin, while the present one was tubercular.

The Medico-Chirurgical College of Philadelphia, has had its charter amended, and now has power to confer degrees in pharmacy and dental surgery.

The Board of Trustees of Jefferson Medical College will at once begin the erection of their new buildings, at Tenth and Walnut streets, Philadelphia.

THE VARIATION OF STRENGTH AND CONSEQUENT UNRELIABILITY OF THE MORE COMMON OFFICIAL PREPARATIONS OF MATERIA MEDICA, AS PROVEN BY SPECIAL CLINICAL OBSERVATION.

BY HENRY BEATES, JR., M. D., OF PHILADELPHIA.

In submitting the facts contained in this brief communication to the attention of this distinguished body, no little hesitancy is entertained, because the subject considers conditions that hitherto have not only not been questioned, but, on the contrary, accepted by the clinician as completed truths, the underlying principles of which supply the basis upon which therapeutic procedure is established and medicine practiced, and to indicate defects of system, or hint a departure from long-lived custom, necessarily provokes an antagonism, which, too commonly is the outgrowth of that sentiment always obstructive, temporarily at least, to progressive effort, to such a degree, as to defeat the very object endeavored to be attained. Were it not for the fact that these presents are the result of long years of special observation and test, the writer would not have the temerity to now set them forth. The main thought as the title implies, is the "Materia Medica"; is it of such a character as to enable therapeutics to be instituted with accuracy and certainty of result, so that the designation scientific may be properly applied to its practice?

In other words, has the profession, in the materia medica, *as it now is*, that means by which the modification of the natural tendency and course of disease, as affected by its use, can be definitely formulated, and an exact science demonstrated? Let inquiry be made before conclusion is reached. All materia medica derived from the vegetal kingdom is, it seems trite to remark, classified. Thus we have mydriatics, analgesics, somnifacients, cardiac stimulants and

depressants. depresso and excito-motors, etc., etc., because of the active principles contained in this or that drug which, perponderating, cause those physiologic phenomena, the sum total of which these terms respectively indicate; therefore, for example, as the principal effects of opium (crude drug) are to relieve pain and produce sleep, it occupies the highest seat among the analgesics and somnifacients, as do digitalis, aconite and veratrum viride as cardiac stimulants and depressants respectively.

A well-known fact, apparently not recognized in its *practical* relationships is, that in addition to the chief active principle contained by a drug, there are special derivatives of pronounced potentiality, each one of which possesses an action peculiar to itself, also, that some of these, we may say minor principles, physiologically act antagonistically, as for example, digitoxin and digitonin from digitalis. A very important fact to be especially borne in mind, is that the percentage of any and all active principles of the entire vegetal materia medica, varies greatly, and parallel therewith the no less vital truth, that no two roots, stems, leaves, fruits, or seeds contain a uniform percentage of these derivatives; therefore, how is it possible for any tincture, infusion or extract to represent a dose which is of standard strength, and especially when prepared as the United States pharmacopœia directs.

Take for illustration opium; good opium, we are taught, contains from nine to fourteen per cent. of morphine, and the pharmacopœia provides a tincture representing ten per cent. of the crude drug. What does the conventional dose of tincture of opium embody? Manifestly, ten per cent. of from nine to fourteen per cent. of morphine, and, in addition, but not stated, the same of an ever varying proportion of the following so-called minor principles: Codeine, thebaine, cryptopine, paramorphine, narceine, opianine, meconine, narcotine, papaverine, porphyroxine and meconic, sulphuric and the-

bolactic acids. In the exhibition of tincture of opium, we utilize an official preparation, the complexity of composition of which, it is exceedingly difficult to estimate, and much more so to administer with precision. Is it any wonder then, that the literature of therapeutics teems with such diverse statements regarding the effects of what is accepted to represent the action of opium? Are the wakefulness and depression, as contrasted with the somnolence and stimulation, due to idiosyncrasy, or the complexity of composition? Another example offers in that much debated and indispensable drug digitalis. Its effects are ascribed to the active principle known as digitalin, and, what is it? Permit an extract from a communication of Merck, sent me in reply to a letter for information.

(1) Digitalein is a glucocide occurring as a white, amorphous, bitter powder, soluble in water and alcohol; is heart tonic and diuretic; (2) Digitalin, a yellowish powder, soluble readily in alcohol and chloroform, and in 2,000 parts of water. This is "digitalin chloroformique" of the Gallic and Belgian pharmacopœias. (3) Digitalin, German, complex, consisting chiefly of digitalein and digitin, the latter known as digitalin crystalline. (4) Digitonin, and (5) Digitalin, Kiliani, the chemical formula of which is $C_{29}H_{46}O_{12}$. This by treatment with dilute acids is separated into digitalose and digitaligenin, $C_{16}H_{22}O_2$, and is soluble in water and alcohol, and almost insoluble in chloroform. (6) Digitalin, crystalline, a derivative soluble in alcohol and ether. (7) Digitalin, purified, obtained from "digitalin, German," by exhausting with alcohol and chloroform, and containing, in addition to digitonin digitalein and digitalin, Kiliani. (8) Digitonin $C_{27}H_{26}O_{14}$, decomposable by acids into gallactose and digitogenin. It occurs in yellow granules soluble in water and alcohol. The specific action of this principle is cardiac depressant, also diuretic and directly the opposite of what is the accepted opinion concerning

crude digitalis. (9) Digitoxin $C_{28}H_{46}O_{10}$, is a white crystalline derivative, soluble in chloroform and alcohol, but not in water. It acts chiefly as a cardiac stimulant, and, as it is insoluble in water, and is reported to be the most powerful derivative acting directly on the heart, the question may here be pertinently asked, How much of this principle have we present in infusion of digitalis? In the shops, digitalin represents a complex preparation, containing a varying percentage of all of these named. And in addition, there are other preparations containing one or more of the above, but all known by the name digitalin. Thus, as in opium, and in the other official preparations of the *whole vegetal materia medica*, digitalis typifies that complexity and variability of percentage composition, which renders impracticable the manufacture of medicaments, the dose and consequent use of which can be based upon accuracy and precision of procedure. Is it strange to encounter such diversity of opinion as to the value of any drug, when for reasons just detailed, there must be such a wide difference between preparations made with alcohol, water, chloroform or ether? It is evident that as each happens to have been the menstrum employed for a given official preparation, there must be these great distinctions, and when it is asserted that the dose of every tincture, personally proven, varies from 5 to 150 minims in order to secure unmistakable physiological results, the reason is not difficult to recognize. Even the derivatives themselves, as they are now extracted and exemplified by digitalin, if prescribed, offer the same defect because of conditions obtaining.

It is also evident why so frequently in the administration of a drug, having for its purpose the securing of its recognized typical result, it is necessary to abandon it because some unlooked-for effect is produced incompatible with either comfort or safety. Aconite, in my experience, is best illustrative of this. The power of this rem-

edy to produce numbness of the peripheral sensory fibres, indicates its value in certain types of neuralgia, and when so employed, as we obtain it from the shops, it as frequently fails as succeeds, and why? Use of its active principles demonstrates two essential properties; one, that of sensory paralysis, the other, circulatory and respiratory depression, and some tinctures and extracts possess such a percentage of one or the other, that until a given preparation is clinically identified, so to speak, it is impossible to use the drug with certainty, for it is just as liable to produce circulatory depression, so marked that it must be abandoned before the hyperæsthetic sensory filament is sensibly influenced, or, on the contrary, a numbness produced to such an extent as to compel its discontinuance, long before a congestion or inflammatory process is favorably modified. In either instance, as purposely exhibited, apparently proving to be unreliable, whereas, it is only a demonstration of the unreliability of the materia medica.

These facts are easily proven by any one disposed to institute inquiry, and it is hoped that the influence of this society will be enlisted in the cause to correct the glaring defect, and to aid in the establishment of those conditions essential to securing to the profession of a materia medica, pure and reliable, and of an unvarying and definite strength.

Therapeutics or clinical medicine as a science, depends upon its means, and until active principles, chemically pure, are obtainable, the high position it merits in our Art and Science cannot be attained.

A MARTYR TO DUTY.

The life of the medical inventor, though it may lead to lasting scientific fame, is not necessarily an enviable one. So, at least, it appears as we read a brief biography of the late Dr. Joseph O'Dwyer, the discoverer of intubation, written by one of his close professional friends, who says: "Dr. O'Dwyer was a poor sleeper from the time he began

thinking on intubation. The thoughts of the day clung to his brain at night, and sleep was at first broken, and at length absent, for the greater part of consecutive nights. After the death of his wife followed the years in which intubation became popular in New York, and his door bell rang much at night. Even though he did not go out, he could not sleep again. Once a tube was inserted in a child's larynx his anxieties began. The operation was new; the accidents were all reported to him from the whole world. These worried him. Not to dwell too long upon the subject, his whole tranquility of mind was destroyed, and sleep was gained only with greatest difficulty."—(The Clinical Review.)

TURPENTINE IN THE TREATMENT OF ACNE ROSACEA.

A patient who was suffering from bronchitis as well as acne rosacea was given turpentine as an embrocation for his chest, and when it had produced the desired effect he took it into his head that what was good for his chest might prove useful for his face, which had been affected for a long time and appeared to be quite incurable, as a great many remedies had been tried unsuccessfully for it. The result was that the acne disappeared. His medical attendant, Dr. Betz, being greatly surprised at the result, tried the same remedy on other cases of acne rosacea and found it very efficacious. The application causes, as might be expected, violent smarting and redness, which, however, disappear in a few hours. Dr. Betz suggests that the turpentine has a solvent action on the sebaceous secretion and that it produces a beneficial hyperemia in the dermis, and lastly that it also exerts a disinfecting action which prevents the further spread of the affection.—(Med. Standard.—Lancet-Clinic.)

The graduating classes of the Philadelphia medical colleges numbered as follows: University of Pennsylvania, 183; Medico-Chirurgical, 114; Jefferson, 50; Women's, 35.

... THE ...

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THE LANCASTER MEETING.

The fiftieth anniversary meeting of the State Medical Society of Pennsylvania, held at Lancaster in May, is now a matter of history and will long be remembered for its many pleasant features. Though not a metropolitan city, Lancaster possesses many advantages as a convention city for the state medical society. Its location, ample hotel accommodations and general hospitality all tend to make a visit enjoyable. Inasmuch as it is the place of the birth of the society, it was fitting and right that the semi-centennial meeting should be held there.

The long program does not only indicate extraordinary activity on the part of the Chairman of the Committee on Scientific Business, but likewise, a general awakening of interest in the affairs of the society, for never have as many or more interesting and valuable papers been offered. The number of papers was indeed so great that, should the same conditions obtain in the future, a return to a four days' session would seem to be imperative. All members who have taken pains to prepare papers should be given opportunity to read them, and this is impossible in a three days' session, when

as many papers, as was the case in Lancaster, are offered. Furthermore, lack of time to read all the papers has a tendency to antagonize free discussion, a feature which should, in every way, be encouraged.

The presiding officer, Dr. Weidman, long in high favor in the society, gained additional laurels by his prompt and impartial rulings. The election of Dr. W. B. Lowman, as president for the ensuing year, also gave general satisfaction, as well as the selection of Johnstown as the next place of meeting.

The social program, arranged by the Lancaster County Society, was very enjoyable, and pleasant memories of the events will long be recalled by all participants. The illustrated lecture on the "Sanitary Relations of our Highlands to the State," by Dr. J. T. Rothrock, proved an attractive feature, and the arguments of the lecturer on the natural advantages of our own highlands as health resorts for consumptives, will doubtless bear fruit. It is inspiring to listen to a lecturer who is so enthusiastic and in love with his subject as Dr. Rothrock, and especially so when its beauties are so well illustrated, as was here the case, both by word of mouth and photographic reproductions.

In keeping with the recommendations of the Trustees, it was determined to continue the publication of the Transactions in journal form, under the same management as heretofore. On account of the large number of papers presented at this meeting, and in order that more space may be devoted to monthly reports of county societies, the Journal has been increased to fifty-six pages of reading matter. K.

ILLEGAL PRACTITIONERS.

It has been wisely provided by the law-making power of Pennsylvania that no one shall practice medicine within the borders of the state until he shall have satisfied the proper legal authorities of the commonwealth that he is properly qualified so to do.

Yet in spite of this fact, there are to-day scattered from one end of the state to the other, hundreds of men and women, many of whom have not had the slightest medical training, who are openly violating the law and putting in jeopardy the health and lives of thousands of citizens with whom they come in contact.

That this is the case, is through no fault of the law. What is everybody's business is, too often, nobody's business, and these illegal practitioners are allowed to pursue their unlawful calling simply because no one sees fit to have them stopped. The remedy is simple, and every physician who has the welfare of humanity and the honor of the profession at heart should lend his assistance in bringing these law-breakers to the bar of justice. As a rule, the evidence against them can easily be obtained, and all that is necessary is for someone to take the initiative.

Every county society should have a committee, whose duty it should be to investigate every doubtful case, and where it is plain that the law is being violated, see that the illegal practitioner is prosecuted. But the entire matter should not be handed over to this committee, and there allowed to rest. Every member of the society, whenever he hears of a suspicious case, should report the facts to the committee, who should then proceed to deal with the suspect.

If such a course were pursued in every county, it would not be long before every unqualified practitioner was driven out of the state, and the citizens protected from these harpies who prey upon them. All that is needed is united action, and it is a matter which the members of the profession should not allow to drag along without any attention.

D. W. N.

THE LEGITIMATION OF OLEOMARGARINE.

The recent decision by the United States Supreme Court declaring the oleomargarine law of Pennsylvania unconstitutional

is one to be highly commended. No one who has given the subject proper study will deny the value of oleomargarine as a food product, and that its manufacture can be and is carried on in a more cleanly manner than obtains in a large majority of country homes where butter is churned, must also be admitted.

Olein, palmitin and stearin are the same whether obtained from milk fat, or from lard, beef oil, cotton seed oil, sesame oil, or other oils of that character, and the presence of the minute quantities of the volatile glycerides of butyric, capronic, caprylic and others of the same class is of small value as food.

Of all articles of diet the fixed oils contain the largest amount of heat units and their importance as a food cannot be overestimated. To prohibit, therefore, the sale of a cheap article of that nature, one that has proven itself very acceptable, especially to the laboring class of citizens, is a distinct injustice and unwarranted under a government for the people. No industry whose existence is endangered in the march of scientific progress is entitled to governmental protection. If the farmer's churn cannot hold its own against the oleomargarine manufactory, it will necessarily become obsolete. We believe, however, that honest competition between the makers of the two articles will result in good not only to the consumer, but the articles themselves will grow in excellence. Inferior butter will be driven out of the market, but a high grade, made under precautions of absolute cleanliness, will not suffer under competition with oleomargarine. Sold under their true names, both products will fall or rise to their proper level. As fats are recognized of the highest value in the treatment of wasting diseases their value as preventatives must be even greater, and the cheapening of a clean and tasteful article of this nature will do much towards increasing its consumption, and it may not be too much to say, decrease tuberculosis. K.

EDITORIAL NOTES.**BACK NUMBERS OF THE JOURNAL.**

A limited supply of back numbers of the Journal is in the hands of the Secretary, Dr. C. L. Stevens, Athens. Members who may have incomplete files can obtain extra copies from him at 25 cents per copy. K.

ATTENDANCE AT THE LANCASTER MEETING.

The attendance at the Lancaster meeting was fully up to the average, 395 delegates and permanent members having been registered. At Pittsburg, in 1897, the attendance was 368; at Harrisburg, in 1896, 332; at Chambersburg, in 1895, 252; at Philadelphia, in 1894, 491; and at Williamsport, in 1893, 209. K.

IT MADE THEM SQUIRM.

A little pamphlet distributed at the Lancaster meeting, intended to show an alleged parallelism in composition between a non-proprietary article and a notorious nostrum, has stirred up the quacks prodigiously. It is amusing to see the squirmings and contortions of the unethical manufacturers when light is turned on their methods. K.

WILKES-BARRE A DESIRABLE MEETING PLACE FOR 1900.

While it is rather early to discuss the place of meeting of the State Medical Society in 1900, it is perhaps not out of place to refer to the fact that for two successive years, at Pittsburg and Lancaster, the Society has received an invitation from the Luzerne County Medical Society to meet at Wilkes-Barre. We hope a third invitation may be extended, and that it may be accepted unanimously at the meeting in Johnstown. K.

ARMY AND NAVY MEDICAL APPOINTMENTS.

Pennsylvania physicians secured a goodly share of the recent appointments in the medical departments of the United States army and navy. The following have been appointed assistant surgeons in the navy:

Drs. George M. Coates, F. B. Hancock and Thomas L. Rhoades, of Philadelphia; W. H. Bucher, of Sunbury, and W. H. Ulsh, of Driftwood. Dr. Ira A. Shimer, of Bethlehem, has been appointed an assistant surgeon in the army, and Dr. George H. Richardson, of Philadelphia, an acting assistant surgeon in the army. Dr. Richardson has just returned from a two years' residence in Burmah. He has been attached to the expedition to the Philippine Islands.

D. W. N.

NOTICE OF ASSESSMENT OF COUNTY SOCIETIES FOR 1898.

The assessment for the year 1898 was fixed by the society at the Lancaster meeting at \$1.75 per member of all county societies. This is an increase of fifty cents each on all members of the county societies, numbering now about 3,200; and will be collected this year only. It was found necessary to do this in order to redeem the pledge made at Philadelphia last year, that our State Medical Society would guarantee \$2,000 additional to the Rush Monument Fund, similar action having been taken by Colorado, New York, and Ohio. The amount is to be held in trust awaiting notice from the National Committee on Rush Monument that preparations have been completed, and a contract accepted for the erection of this great testimonial.

T. P. S.

APPOINTMENT OF CHIEF SURGEONS.

President McKinley has appointed the following medical men to be chief surgeons of the army, with the rank of major: Dr. George Cook, of New Hampshire; Dr. Wm. H. Daly, of Pennsylvania; Dr. Clayton Parkhill, of Colorado; Dr. J. M. Jene, of Vermont; Dr. H. W. Cardwell, of Oregon; Dr. J. H. Hyssell, of Ohio; Dr. L. B. Almy, of Connecticut; Dr. Chas. B. Nancrede, of Michigan; Dr. Henry F. White, of Minnesota; Dr. Thos. E. Evans, of Alabama; Dr. J. D. Griffith, of Missouri; Dr. R. E. Griffin, of Nebraska; Dr. Edward

Boeckman, of Minnesota, and Dr. Thos. C. Kimball, of Indiana. Dr. Daly, Pennsylvania's representative, has long been a close personal friend of General Miles, and his advice and counsel will doubtless have more than ordinary weight in shaping the medical affairs of the army. K.

PRESENTATION OF A GAVEL TO DR. WEIDMAN.

One of the events of the Lancaster meeting not on the official program was the presentation of a gavel to the president by his associate members of the Committee on Legislation. The presentation speech was made by Dr. H. G. McCormick, who spoke as follows:

"On behalf of your associates of the Legislative Committee, who labored for five years to secure the enactment of a law which would give to the people of this State some protection against incompetent practitioners of medicine, I present you with this gavel. May it ever be wielded in the cause of right and the advancement of the medical profession."

In accepting the token President Weidman said: "It is very kind in you, my associates on the Legislative Committee, to thus remember me. I accept this token of your friendship, with the assurance that its use shall only be called into requisition to enforce the laws which our society has enacted, which, I trust, you shall all find will be just, fair and impartial—only wielded in the cause of right and for the best interests of the medical profession.

"Accept my sincere thanks for this additional evidence of appreciation of the very humble part I bore in the securing of the laws guaranteeing protection against incompetent practitioners of medicine."

The gavel was made of finely-polished wood, and on a silver plate attached to it were the names of the donors, viz.: Dr. H. G. McCormick, Dr. W. S. Foster, Dr. J. B. Roberts, Dr. I. C. Gable, Dr. C. L. Stevens and Dr. J. W. Moore. K.

PEPPERMINT TEA FOR SUMMER DIARRHŒA OF CHILDREN.

It is quite the fashion among medical men to look with contempt on "old women's remedies," and probably in a majority of instances the contempt is justified, but it not seldom happens that investigation will prove many household remedies to be based on good scientific principles, even though given empirically. In this class of drugs peppermint may be placed. This herb, however, has a dual reputation, that is, it is both an "old woman's remedy" and a pharmacopœial, official drug, but is much oftener used in the former sense than in the latter, at least for its medicinal effect, for the official "*aqua menthæ piperitæ*," the form in which it is most frequently prescribed, does not represent all of its properties. As a household remedy it is in greatest demand during the present and two succeeding months. It will be found an excellent medicine in the gastric and intestinal disturbances of infants, especially those fed artificially. The gastro-intestinal derangements of such children are manifestly due to bacterial agencies at work in the intestinal tract and in the food before ingestion, and the treatment indicated is to give proper, uninfected food and to aim at antiseptics in the stomach and intestines, and in the line of the latter peppermint in the form of tea will be found to serve a most excellent purpose. A small pinch of the leaves (the imported German, uncompressed, is best) is steeped in boiling, sterilized water, and the tea, sweetened to taste, given *ad libitum*. Many babies, it will be found on investigation, are given milk too often, especially when they are sleepless. To such the mint tea has another advantage, namely, the sleep-inducing effect of the nursing process, and the sterile water also quenches thirst—a need of infants frequently overlooked. The purely medicinal effect of peppermint can be attributed to a number of constituents, chief among which stands menthol, a stearopten contained in

the oil of peppermint, but not in spearmint. This substance is strongly antiseptic, and consequently inhibits the fermentative process with its elaboration of gases and toxins; it is a local anæsthetic, and thus relieves irritability of the stomach and intestines. In addition to menthol other constituents of the oil of peppermint exert an antiseptic and stimulant action. The herb also contains a little tannin, whose action is likewise in the line of the need of an infant suffering from or threatened with the common summer diarrhœa.

The tea may be given in a nursing bottle, either warm or cold, though most children prefer it warm. Few refuse it, especially when properly sweetened. A pinch of the entire leaves (thumb and two fingers) is sufficient for a pint of tea. K.

FOR COLD.

Wunche (*Therap. Monats.*) reports a prescription for colds which in the early stages is said to act almost specifically. It consists of menthol, one to two parts; chloroform, twenty parts. Four to six drops of this mixture are poured in palm of hand, rubbed in quickly with the palm of the other hand, and then both hands held as a cone over the nose and mouth, inhaling deeply. This may be repeated two or three times daily if needed.—(*Virginia Med. Semi-Monthly*.—*Lancet-Clinic.*)

THE THUMB IN INSANITY.

A very curious instance of the intimacy between the functions of the brain and the remotest parts of the body may be observed by those who have anything to do with the inmates of lunatic asylums. It is that which concerns the thumb and the brain; in fact, it is said that there is one infallible sign of insanity. Let a person speak ever so rationally and act ever so sanely, if his or her thumbs remain inactive there is no doubt of insanity. Lunatics seldom make use of their thumbs when writing, or saluting.—(*The Dietetic and Hygienic Gazette.*)

Reviews.

TRANSACTIONS OF THE LUZERNE COUNTY MEDICAL SOCIETY, for the Year Ending December 31, 1897. Organized March, 1861. Wilkesbarre, Pa.: E. B. Yordy, Printing and Blank Books. 1897.

A splendid example of the educative capacity of the ordinary county society. The work of the year ranged from a speculative paper on the most recent views as to the micro-physiology of the nervous system, to a discussion on the recognition and treatment of measles. Dr. Long's address on the "Hygiene of the Jews" was a most suggestive one. J. W. B.

A CLINICAL TEXT-BOOK OF SURGICAL DIAGNOSIS AND TREATMENT. For Practitioners and Students of Surgery and Medicine. By J. W. MacDonald, M. D., 8 vo., pp. 798. Cloth, \$5.00; half-morocco, \$6.00, net. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

The author of this extensive work would have us to believe that this book develops a new field in surgical writings. He says in the preface that the growth of modern surgery demands greater nicety of diagnosis, and states his object is to answer the question, What is the disease or injury? and how shall we treat it?

In the first object he has failed, because he has confounded the name and list of the symptoms of a disease with the term diagnosis.

The term "diagnosis" is employed in two senses: The first indicates the mental process by which we distinguish between morbid states; and the second the result of that process and therefore synonymous with the name of the disease.

In this book each surgical disease of an organ is described symptomatically under its anatomical system. The vascular system; the osseous system; the joints; the digestive system; the genito-urinary system; the nervous system; the respiratory system; morbid growths; the female generative system. The method of describing a disease symptomatically so far as diagnosis is concerned is much like "placing the cart before the horse."

The key to diagnosis which the student and practitioner are so much in need of is that logical consideration of a symptom or group of symptoms which determines one disease or another. The value of a symptom varies so greatly even in the same disease in different individuals that it is impossible to sketch nature in parallel columns of differences, although it may be exceedingly useful graphically. For a student this method is dangerous, for it begets an evil habit of mind.

The method of "diagnosis by exclusion" which depends on recognition of the highly diagnostic

symptoms of a disease and produces the most accurate results, has been neglected. The author has not employed any method not found in any modern text-book of surgery so far as diagnosis is concerned.

The second subject, "How to treat the disease," has received greater attention, and it may be said to constitute the greatest merit of the book. The latest and most judicious surgical treatment has been culled from the current surgical periodicals and text-books of the last two years, making this a useful reference work for the practitioner of medicine.

Perhaps enough detail has not been given to assist the student in choosing the proper operation for the varying intensity of a disease.

The volume is completed by a chapter on the Röntgen rays in surgical diagnosis, which is appropriate and instructive

J. H. A.

THE DISEASES OF THE STOMACH. By Wm. W. Van Valzah, A. M., M. D., Professor of General Medicine and Diseases of the Digestive System, in the New York Polyclinic Medical School and Hospital, and J. Douglass Nisbet, A. B., M. D., Adjunct Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital. Illustrated. Philadelphia, Pa., W. B. Saunders, 925 Walnut st. 1898.

This work contains 630 pages of well-written and carefully-edited material. The general plan has been to "re-arrange the best that others have said and done, in unison with what we ourselves have learned during years of special study and practice." The typographical errors are few and unimportant. The illustrations are "authors' specimens," and while well executed, are very few in numbers.

No space is wasted by extended dissertations on anatomy or general pathology. There is no hesitation in assailing recognized classification or nomenclature, where either seems to the authors to be at fault. "Dilatation is not described as a disease, since, like the word dyspepsia, it has no precise meaning, and embodies false notions." The words "Stagnation" and "Retention" are used "to denote motor insufficiency, and to emphasize the fact that motor insufficiency is a functional sign, and not a morbid entity."

Plainly the effort has been made to advocate methods of examination, that while sufficient, are neither too elaborate nor complicated for the general practitioner. The authors insist on accuracy in diagnosis where precision is possible, and devote considerable space under each disease to the etiology, clinical description, diagnosis, and differential diagnosis.

But little generalizing is indulged—acid and

pepsinogenous medication occupying but two pages—yet under definite conditions, well defined methods of treatment are outlined, and the reader is not left in doubt as to the authors' preference. Where there are radical differences with recognized authorities, the case is stated fairly, and the reader allowed to choose.

The comments on milk in the chapter on diet will be a revelation to the practitioner who has permitted himself to advise it as a routine diet. Among other contra-indications are mentioned the following: "It is the worst possible food in carcinoma with retention." "It should be prohibited in all diseases of the stomach accompanied by retention." "Even when suited to the stomach, a milk diet may be contra-indicated by its action on the intestines and on nutrition." "There is no diet that requires more careful watching and selection."

The work is divided into six sections, treating respectively of the symptoms as manifested by physical signs; functional phenomena, and bacteriological and anatomical appearances.

The first section is the introduction; brief and to the point.

The second section is devoted to diagnosis and diagnostic methods.

The third section covers general medication, as embraced in diet, physical remedies, physiological, bacteriological and chemical treatment.

The fourth section treats of the dynamic affections of the stomach.

The fifth section is taken up by the anatomical diseases of the stomach.

The sixth section is devoted to the "vicious circles of the stomach," or the influence that the diseased stomach has on other organs, and the condition of the stomach in pathological states of other organs.

A. L. R.

NEW BOOKS.

Accident and Injury. Their Relations to the Nervous System. By Pearce Bailey, A. M., M. D., Attending Physician to the Department of Correction and to the Almshouse and Incurable Hospitals, etc. New York: D. Appleton & Company. 1898.

A Manual of Hygiene and Sanitation. By Seneca Egbert, M. D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia, etc. Illustrated with Sixty-Three Engravings. Price, \$2.25. Lea Brothers & Co., Philadelphia and New York. 1898.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City. In Twenty Volumes. Volume XIV., "Infectious Diseases." New York: William Wood & Company. 1898.

Brief Essays on Orthopaedic Surgery. Including a Consideration of its Relation to General Surgery, Its Future Demands, and Its Operative as well as Its Mechanical Aspects, with Remarks on Specialism. By Newton M. Shaffer, M. D., Surgeon in Chief to the New York Orthopaedic Dispensary and Hospital, etc. New York: D. Appleton & Company. 1898.

Atlas and Abstract of the Diseases of the Larynx. By D. L. Grunwald, of Munich. Authorized Translation from the German. Edited by Charles P. Grayson, M. D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania, etc. With 107 Colored Figures on 44 Plates. Price, \$2.50, net. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

Text-Book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Fifth edition Revised by Henry Leffman, M. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, etc. Price, \$3.00 Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1898.

A Manual of Instruction in the Principles of Prompt Aid to the Injured, Including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, U. S. A. Designed for Military and Civil Use. By Alvah H. Doty, M. D., Health Officer of the Port of New York; Late Major and Surgeon, Ninth Regiment, N. G. S. N. Y., etc. Second Edition Revised and Enlarged. New York: D. Appleton & Company. London: 33 Bedford street. 1898.

Communication.

SCIENTIFIC PROGRAM OF THE LYCOMING COUNTY MEDICAL SOCIETY FOR 1898-1899.

ESSAYS AND DISCUSSIONS.

May.—Essay: The Early Diagnosis of Abdominal Diseases, Dr. G. D. Nutt.

Discussion: Pleurisy. Opened by Drs. B. H. Detwiler and C. B. Bastian.

June.—Essay: Rachitis, Dr. N. L. Johnson.

Discussion: Entero-Colitis. Opened by Drs. T. C. Rich and B. M. Yost.

July.—Essay: Curettage of the Uterus, Dr. J. A. Klump.

Discussion: Anthrax. Opened by Drs. G. F. Dandois and A. J. Stokes.

August.—Essay: Mortuary Record of Williamsport, Dr. C. W. Youngman.

Discussion: Hemorrhoids. Opened by Drs. W. E. Glosser and R. H. Born.

Voluntary paper, by Dr. F. P. Ball, Lock Haven.

September.—Essay: The Use of Drugs in Diseases of the Uterus, Dr. C. M. Adams.

Discussion: Serum Therapy. Opened by Drs. J. W. Albright and H. M. Emerick.

October.—Essay: Auto-intoxication in its Relation to Diseases, Dr. A. P. Hull.

Discussion: Cystitis. Opened by Drs. Ella N. Ritter and G. W. Metzgar.

November.—Essay: Water, Dr. H. G. McCormick.

Discussion: Acute Nephritis. Opened by Drs. J. C. Steans and L. Schneider.

December.—Essay: Death Rate of Pneumonia, Dr. G. F. Bell.

Discussion: Diabetes. Opened by Drs. C. E. Albright and W. B. Konkle.

January.—Essay: Pneumonia, Dr. J. F. Fleming.

Discussion: Therapeutic Uses of Mercury. Opened by Drs. W. G. Marsh and P. C. Reilly.

February.—Essay: Puerperal Insanity, Dr. W. E. Delaney.

Discussion: Tonsillitis. Opened by Drs. E. S. Hull and V. P. Chaapel.

March.—Essay: Anæsthetics, Dr. W. F. Kunkle.

Discussion: Sciatica. Opened by Drs. Charles Schneider and H. M. Essick.

Clinics will be given by members of the Williamsport Hospital Staff at the meetings whenever possible.

W. F. Kunkle, Secretary.

THE USE OF VINEGAR FOR THE VOMITING PRODUCED BY CHLOROFORM.

La Medecine Moderne (Ther. Gaz.), quotes the observation of Lewin that out of 174 cases of vomiting following the administration of chloroform he was able to relieve 125 patients by causing them to inhale the fumes of vinegar, the vinegar having previously been placed upon a towel. The method consists in placing a small piece of linen which has been wet with vinegar over the face of the patient for a number of hours, after the chloroform mask has been removed. If the vomiting returns after this treatment is stopped a renewal of it will be sufficient to check the relapse.

Lewin believes that in the elimination of chloroform from the lung it is decomposed into hydrochloric acid and chlorine and that these irritating substances are responsible for the attack of vomiting, and that the inhalation of the vapor of the vinegar produces trichloroacetic acid, which does not produce vomiting.—(Medical Standard.)

Monthly Reports of County Societies.

REPORT OF BUCKS COUNTY SOCIETY.

The semi-annual meeting of the Bucks County Medical Society was held on May 4, at Doylestown, with a good attendance.

Dr. I. B. Roberts, of Dublin, was elected a member. Drs. W. H. Stettler, of Spinnerstown, and Andrew C. Biehn, of Richland Centre, made application for membership.

Dr. Chas. P. Noble, of Philadelphia, delivered an excellent address upon "Conservatism in Gynecology." Dr. Wm. S. Erdman gave a clinical report of a case of burn of the third degree, that covered one-fourth of the body, illustrated by photograph. Dr. J. B. Walter reported an interesting case of "nausea of pregnancy" that terminated fatally. Dr. O. H. Fretz presented the record of "a case of mixed-celled sarcoma of medulla oblongata and pons verolii"; autopsy, with photographs.

Drs. J. N. Richards, J. B. Walter, Wm. R. Cooper and F. B. Swartzlander compose the committee to perfect arrangements for celebrating the 50th anniversary in November.

A. F. Myers, Secretary.

REPORT OF SPECIAL MEETING OF THE LYCOMING COUNTY SOCIETY.

IN MEMORIAM: C. R. EARLY, M.D.

At a special meeting of the Lycoming County Medical Society called May 18th, 1898, to take action on the death of Dr. C. R. Early, of Ridgway, the following resolutions were adopted:

Whereas, It becomes our duty to announce the death of Dr. C. R. Early, who for a long period has been a member of the Lycoming County Medical Society, therefore be it resolved,

First—That the members of this society,

in the death of Dr. Early, lose a faithful and respected associate, the profession, a brilliant and honored member, and the people, a wise and vigilant public servant.

Second—That the members of this society sympathize most deeply with the members of his family in their sad bereavement.

Third—That these resolutions be sent to the family of the deceased, and be published in the secular and professional press.

*C. M. Adams, M.D.,
Vice-President.
W. F. Kunkle, M.D.,
Secretary.*

REPORT OF LANCASTER COUNTY SOCIETY.

IN MEMORIAM:—WILLIAM HARMANY SMITH.

Dr. Smith was born in the vicinity of Intercourse, Lancaster co., Pa., Jan. 15, 1854. His preliminary education was obtained in the public schools of the neighborhood. Early in life he had a desire to study pharmacy, and at the age of 16 he went to Philadelphia, and entered the drug store of Mr. Gerhardt, where he remained about eight months, and then went to Lancaster, to the drug store of Mr. Markley, serving there one year. In April, 1872, he went to Washington, D. C., and entered the large and extensive drug store of Mr. George J. Musser, and after remaining with him for three years, and having received his testimonial for high moral worth and honesty, and for his studious and industrious habits, and having thoroughly learned the drug business, he decided to study medicine. He went to Intercourse, his native place, and commenced the study of medicine under the preceptorship and guidance of his father, the late distinguished Dr. Harmany A. Smith, of the same place, for many years a devoted and successful practitioner.

Dr. William H. Smith pursued his studies at Jefferson Medical College, Philadelphia, from which institution he was graduated in the class of 1877. He then commenced practice at Intercourse, Pa., with

his father, and after the latter's death, he continued in the same field, until removed by death, March 16, 1898. Soon after graduation he was elected to membership in the Lancaster City and County Medical Society. In 1881 he became a member of the Medical Society of the State of Pennsylvania, and on several occasions served as a delegate to its annual meetings. Dr. Smith loved his profession, and was a diligent student throughout his whole professional life. He had a liking for surgery, and performed some successful operations in that field. He was of a benevolent disposition, and was ever ready to sacrifice his personal comfort to promote that of others, and in his profession always willing to render what relief he could to the suffering without thought of reward. His life was a series of kindly acts, and he leaves many to lament his death. As a citizen, he enjoyed the respect and esteem of a large circle. As a physician, he was careful and successful, using his natural ability to good purpose for the benefit of his patients.

While attending a number of patients during an epidemic of parotiditis, he was himself attacked with the disease, and not yielding to the entreaties of his friends to keep in the house, and being of a rather frail physique, he was completely prostrated, and after a severe illness of general nervous prostration, from which he never rallied, and which confined him to his house for two weeks, he passed from this to a higher life, at the age of 44 years. He was stricken down in the prime of manhood, and at the height of his usefulness. A wife and three children mourn his untimely death.

Park P. Breneman, Secretary.

REPORT OF WASHINGTON COUNTY SOCIETY.

The annual meeting of Washington County Medical Society was held at the Auld House, Washington, Pa., May 10, 1898. The two sessions of the society were

presided over by President W. T. Mitchell, of Allenport. The attendance was very good, and the interest manifested cheering to those upon whom the heat and burden of society work fall.

The three papers read by Drs. A. L. Russell, Wray Grayson and L. C. Botkin, were all well received, each paper manifesting both care and ability on the part of its author.

Officers elected for 1898: President, S. A. Lacock, Canonsburg; Vice-President, C. T. Dodd, Van Buren; Secretary, J. A. McKean, Washington; Treasurer, W. R. Thompson, Washington; Censors, H. M. Acheson, Washington; B. A. Emory, Duncansville; A. L. Russell, Midway.

Delegates to American Medical Society, W. T. Mitchell, J. B. Donaldson, L. C. Botkin, A. L. Russell, and G. A. Linn.

J. A. McKean, Secretary.

REPORT FROM NORTHAMPTON COUNTY SOCIETY.

IN MEMORIAM: TRAILL GREEN, M.D., LL.D.

The death of one so prominent in life, so well known in the medical and scientific worlds, so favorably identified with all public movements, was commemorated by a special meeting of the Medical Society of Northampton County on the 18th of June, 1897. On this occasion the papers and addresses gave in such befitting fullness an account of the life and works of Dr. Green that we now present simply a review of the material gathered there.

Traill Green was born May 25, 1813, in Easton, Pa., and died in the same city, April 29, 1897. In his veins coursed the blood of English pioneers, of Scotch patriots, mixed with that of German reformers and American Quakers, forming one of those composite characters in which the best traits of three different nationalities were retained, while the inferior characteristics seemed to drop out of view. This blended lineage was depicted on his noble face,

which, indeed, was one never to be forgotten, so full was it of all that is manly, true, and kindly. The early education of Traill Green took place in two well known academies of Easton. He then took up the study of medicine, and not satisfied with the two brief courses of the time, took three full courses in the University of Pennsylvania and Chapman's Institute. After receiving the degree of M. D. in 1835, he spent one year of earnest work in the Fifth Street Dispensary, of Philadelphia. Returning to Easton, he immediately began private courses of instruction in chemistry, and the year following, was elected professor in chemistry by the trustees of Lafayette College.

In 1841 a call from Marshall College at Mercersburg to teach the natural sciences was received and accepted. Here, for seven years, his time was so occupied with his new duties that he made no attempt to practice medicine.

Returning to Easton in 1848 he was again appointed to the chair of chemistry in Lafayette College. His desire to promote a more general knowledge of science is shown by the fact that he was one of the founders of the American Association for the Advancement of Science in the year 1851.

Ambitious for the elevation of the medical profession, in 1849 Dr. Green called a meeting for the purpose of organizing a county medical society, and, to his energy, active support and intelligence, the Northampton County Medical Society owes much of its success.

Dr. Green was also one of the leaders in the foundation of the American Academy of Medicine, to which an admission could only be obtained by those who had taken a degree in college. He was its first president and a firm believer in the efficiency of a preliminary training prior to the study of medicine.

An additional evidence of the esteem in which he was held, is the fact that for twenty-four years, the doctor held the office of

trustee of our State Insane Asylum, having been appointed by five different governors. During the Civil War he served on a board to examine the surgeons who attended the Pennsylvania troops, and showed his true patriotism by every honorable means in his power.

Dr. Green occupied many important positions of trust and honor. His character as a public spirited citizen was shown in every enterprise started in Easton for half a century. No matter what the subject, he considered only the public good and the welfare of the people. He was a zealous leader in the cause of temperance, and was thoroughly consistent in his belief, and in his practice. His professional free list was notably large, and many charities were the recipients of his generosity. To Lafayette College he gave his time, his money, his influence, not once but a thousand times. With cheerful, unselfish devotion, he filled every official position in the college, generally without any remuneration. The observatory, with its furnishings, was his gift, and at his death he did not forget to give to the college his books and minerals. No one can tell how much of his personality is impressed on that school. It is not strange that such a character should impress itself upon the community, that the influence he exerted shall be felt in the years to come, for he took as his example the "Great Physician" to whom he often referred, and hoped to imitate.

*A. A. Seem,
Wm. H. McIlhenny,
Committee.*

REPORT OF THE SUSQUEHANNA COUNTY SOCIETY.

At the annual meeting of the Susquehanna County Medical Society, held May 3, 1898, the following obituary reports were read. On motion the secretary was directed to transmit them to the Pennsylvania Medical Journal for publication:

IN MEMORIAM: EDWARD S. BENSON, M.D.

Dr. Edward Scott Benson was born in

Jackson Township, Susquehanna Co., Pa., August 24, 1866. He was the youngest son of Leander C. Benson and Ellen S. (Birdsall) Benson.

During his childhood his parents removed to Susquehanna, Pa., where they still reside. Dr. Benson attended the public schools in Susquehanna, and pursued an academic course at Keystone Academy, preparatory to the study of medicine.

His professional course of study was conducted under the preceptorship, and in the office of Dr. Samuel Birdsall, of Susquehanna, and at the Medical Department of the University of the City of New York, from which institution he graduated April 4, 1893. The following October he located in Jackson, Pa., his native town.

Being well and favorably known as a diligent and thorough student, and a gentleman of integrity and untarnished moral character, he was cordially received and soon secured a large practice.

He devoted himself to professional work with untiring energy and zeal. He possessed not only excellent scientific attainments, but the tact necessary to apply his knowledge in practice. The deep interest he felt in every important case entrusted to his care, soon led him to forget self, and resulted in frequent overtaxing of mind and body. Under the severe mental and physical strain to which he was frequently subjected, his health declined and the remonstrance of kind friends against excessive work and neglect of his health were not heeded sufficiently early. Returning home, near midnight, the morning of October 18, 1897, he told his attendant to retire, while he would study some points regarding important cases he was attending. A few moments later he fell on the floor and expired almost instantly. He was thirty-one years of age, and unmarried. He was a member of the Masonic order. He practiced in Jackson four years and became a member of the Susquehanna County Medical Society soon after locating there. At the an-

nual meeting of the society, May 4, 1897, he was elected vice-president, which office he held at the time of his death. He took a deep interest in the affairs of the society, attended its meetings whenever practicable, and contributed at least one valuable paper to its proceedings.

Dr. Benson was conscientious in the discharge of his duties to his patients. He despised the deception and fraud practiced by some so-called physicians for the purpose of making an "impression" and securing practice.

He maintained a high sense of professional honor and always treated his professional brethren respectfully and honorably. His professional career, although brief, gave promise of high attainments and a life of great usefulness.

Samuel Birdsall.

RESOLUTIONS ADOPTED AT THE ANNUAL MEETING
OF THE SUSQUEHANNA MEDICAL SOCIETY,
MAY 3D, 1898.

Whereas, Our esteemed fellow member and vice-president, Dr. Edward Scott Benson, has been removed from his sphere of earthly activity by the relentless hand of death since our meeting in October last, and, Whereas, by diligent study, high professional attainments, exalted sense of professional honor and active interest in the welfare of this society, he had endeared himself to our active membership and given promise of great usefulness. Therefore,

Resolved, That we deeply mourn the loss of our departed brother, and that we extend our sincere sympathy to the parents and other relatives and sorrowing friends.

Resolved, That our society has sustained a severe loss by the death of our brother, and the community in which he resided a useful, upright and worthy citizen.

Resolved, That a copy of these resolutions be recorded on our minutes, a copy presented to the bereaved parents, and publication requested in the Pennsylvania Medical Journal, the organ of our State Medical Society.

S. Birdsall,
H. M. Fry,
A. E. Snyder, } *Committee.*

IN MEMORIAM: E. S. WHEELER, M.D.

Dr. E. S. Wheeler was born in Waverly, Pa., January 7, 1850. I think he received academic training at the Old Madison Academy, Waverly, and studied medicine with his father, Dr. S. M. Wheeler. He graduated from college in 1873.

In the same year he married an esteemed lady, Miss Hattie Chamberlain, of Waverly, Pa., who survives him.

He commenced practice in Waverly, and removed from there to Peckville. Thence to Fleetville and from there to Nicholson, in 1874. He was elected coroner of Wyoming Co. in 1875. Served on the pension examining board during the last two Democratic administrations. Seven months before his death he found himself suffering from the malady to which Gen. Grant succumbed, cancer of the throat. The best surgical skill of the medical profession proved of no avail, and on Oct. 31, 1897, he left the body, no longer fit for the spirit's home, and passed to the unseen. A loving wife and an only daughter (Mrs. Elizabeth Wheeler Pratt) the community at large, and the medical society of Susquehanna County, of which he was an honored member, mourn his departure.

A. T. Brundage.

C. C. Halsey, Secretary.

DENTITION.

The views in regard to the effects of teething on the health of children have undergone a complete change. The doctors of the old school were accustomed to lay at the door of dentition most of the diseases occurring between the ages of six months and two years. At the present time many practitioners go to the other extreme, and deny that teething causes any symptoms whatever. Probably the truth lies in the happy medium, for while the importance of dentition in causing disease has doubtless in the past been greatly over-estimated, yet it is true that reflex symptoms, due to teething, may arise, often of a serious nature.—Pediatrics.—Maryland Med. Jour.)

Current Medicine.

METHOD OF GIVING MERCURY IN SYPHILIS.

Fournier (in *British Medical Journal from Sem. Med.*, June 30, 1897,) rejects fumigation, baths, mercurial plasters and other such methods as being scientifically obsolete, and gives the three possible methods of to-day as (1) internally (by the mouth); (2) inunction; (3) hypodermic injections, with the following advantages and disadvantages for each:

Advantages of ingestion are—(1) Ease of administration; (2) well tolerated; (3) proved activity.

Disadvantages of ingestion are—(1) May upset digestion; (2) can only use moderate doses, heroic ones causing intestinal irritation; (3) hence not suited when quick action is necessary.

Advantages of inunction—(1) Very active; (2) only occasionally disturbs digestion; (3) does not interfere with administration of other medicines.

Disadvantages of inunction—(1) The trouble of applying; (2) secrecy difficult; (3) likely to occasion stomatitis; (4) curative effects variable according to thoroughness of administration.

Advantages of injection—(1) Active and easily regulated; (2) does not disturb digestion; (3) stomach free for other agents; (4) If occasional large injection, remarkably active.

Disadvantages of injection—(1) Dangers of local complications; (2) pain (sometimes very intense); (3) trouble of regular administration.

His conclusions, briefly stated, are as follows:

1. As to patient himself—If robust, use ingestion; if cachetic, avoid it; if detention bad, use ingestion, inunction and large doses by hypodermic injection being contraindicated. Avoid injections in day laborers—may interfere with their means of support.

2. As to kind of syphilis—Roughly stated, treat ordinary cases by ingestion, more severe ones by inunction, and the worst by injection.

3. As to object of treatment—If for particular symptom, use any method best adapted for case in hand; but if for cure, ingestion, occasionally interrupted, but lasting for years, is the best of all.—(Nashville Med. and Surg. Bulletin.)

IMMUNIZATION.

The Ehrlich theory of immunity which has led to important results in the past three months is thus concisely stated by Behring:

1. A toxin only produces its specific disease in those individuals who already possess a substance in the living cells or tissues which has a chemical affinity for the toxin.
2. When this substance passes out of the tissues into the blood, it becomes a protecting and curing substance. In other words, the same substance which stored in the cells, is the preliminary and indispensable condition to an intoxication, transferred into the circulation, cures it, recalling Hippocrates' "what causes the disease, cures it," but unlike this, susceptible of scientific demonstration, as many have already reported, *vide* Journal, pages 1290, 1127, 449. Wernicke has saved guinea pigs inoculated with a fatal dose of anthrax, by administering spleen substance, after killing the anthrax bacilli in it, thus causing the production of sufficient anti-bodies to subdue the infection. Pfeiffer has also recently announced that the cholera protecting bodies are accumulated in the blood-producing organs much more abundantly than in the blood itself. The application of this theory in therapeutics is more or less dangerous, as a certain degree of intoxication must be attained in order to start the production and dissemination of the anti-bodies, especially in cases in which there is already an advanced condition of irritability, evidenced by fever. Koch now refuses tuberculin treatment altogether to patients with fever.

But these patients are the very ones who will benefit most when we finally succeed in supplying directly to the blood such a powerful toxin-binding substance that the effect will be accomplished without compelling the organism to extra work.—(Deutsche Med. Woch.—Jour. Am. Med. Assoc.)

YELLOW FEVER IN CUBA.

Dr. John Guiteras, in an interview with a reporter of the Philadelphia Press, expressed himself on the question of yellow fever precautions in Cuba substantially as follows: "At the present time there is not the slightest danger to be apprehended from yellow fever in Cuba. The island is usually free from the disease till the middle of June or later. Then the yellow fever season sets in and continues until the last of October. It is at its height during the months of August, September and October. There has been a lot of discussion concerning the prevention of the disease by 'individual precaution.' These measures of prevention for individual cases are worthless. The disease ought not to be treated from the standpoint of the individual, but from the standpoint of the mass. The most important measures to be taken to prevent the spread of the disease in the invading army would be general measures affecting the distribution of troops, the manner and place of landing, the location of distributing centers of supplies, and the selection of sites for the establishment of camps. Outside of the yellow fever in certain seaport towns of Cuba we may consider the climate salubrious. Malarial fever and dysentery are not commoner than they were with us during the civil war. Havana and other seaport towns in Cuba are really the danger spots of the disease. The interior of the island is free from yellow fever. Another precautionary measure to be taken would be for all supplies for the army to be shipped directly from the United States."—(Medical Standard.)

THE VALUE OF MEDICAL SOCIETIES.

Dr. G. E. Frothingham, of Detroit, Mich., a veteran practitioner and teacher, in a late address before the Wayne County (Detroit) Medical Society, said about medical societies: "I am convinced after years of observation, that medical men can only reach the highest state of development by active membership in some medical society. The meetings of a medical society constitute one of the best post-graduate courses they can attend. At these meetings they get the benefit of the study and experience of a large number of their fellow-workers; they get the result of practical tests of all new theories and remedies on a more extensive scale than any one man can hope to try them; they get the result of the reading and best thoughts of each member, and the system of medical education offers no better method of professional advancement, after the completion of a thorough course of medical instruction and graduation from college, than attendance upon them. It is to be regretted that so few appreciate this fact."—(The Clinical Review.)

SELECTION OF PHARMACISTS.

Physicians do not, as a rule, use as much discretion as they should in the matter of recommending a competent pharmacist. When the prescription has been written, the choice of a pharmacist is left entirely to the patient. Too often it is taken to the "cut-rate" store, where any "cut" in the price is made at the expense of the quality of drugs used. The standard scale of prices charged by competent druggists is not exorbitant, and better results will be obtained by warning patients against the cut-rate establishment than by total disregard of the matter.—(Ohio Medical Journal.)

The Philadelphia Medical Club has been incorporated, and hopes soon to have a club-house of its own. The club has a membership of about two hundred, and is in a flourishing condition.

Official Transactions.

Minutes of the Proceedings of the Medical Society of the State of Pennsylvania, at its Semi-Centennial Session, Held at Lancaster, May 17, 18 and 19, 1898.

The Forty-Eighth Annual Meeting of the Medical Society of the State of Pennsylvania, met in Mannerchor Hall, May 17, 1898, and was called to order at 9.30 A. M., by the President, Dr. W. Murray Weidman, of Reading. The following officers were also present: Drs. Wm. B. Atkinson, Philadelphia; B. H. Detwiler, Williamsport; and J. H. Bittinger, Hanover, Vice-Presidents; Dr. C. L. Stevens, Athens, Secretary; Dr. T. B. Appel, Lancaster, Assistant Secretary; Dr. G. B. Dunmire, Philadelphia, Treasurer; together with the following Trustees: Drs. T. P. Simpson, Henry Beates, Jr., M. A. Rhoads, John Curwen, I. C. Gable, R. Armstrong, and W. T. Bishop.

Rev. Dr. E. V. Gerhart, Lancaster, opened the meeting with prayer.

It was voted that the presentation of the Register of Delegates be postponed until completed.

Dr. Chas. A. Heinitsh, the accredited delegate from the State Pharmaceutical Association, was introduced and made a short address, as follows:

Mr. President and Members of the Medical Society of the State of Pennsylvania:

As the accredited delegates of the Pennsylvania Pharmaceutical Association, we have the high honor of meeting with you, on this your Semi-Centennial Natal Day. Fifty years ago, a round half-century, your society was organized in this city, and we were then honored by your selecting for its first President, our late Dr. Samuel Humes, who, with the many other distinguished men in your profession, had contributed so much to your growth and influence for good.

We esteem it a very agreeable privilege to present ourselves here, to convey our official and personal salutations to you in convention assembled and to thank you for the compliment you again have paid us by your cordial reception, and also at every meeting of your society since our first representation at Bedford Springs, in 1887. The necessity and advantage of keeping mutually related, the two professions of Medicine and Pharmacy, are so evident and have been often dwelt upon in the societies, and the various published journals of the day, to need no new explanations now. We feel that we are voicing the deep sentiments of the Pennsylvania Pharmaceutical Association, one of whose aims is the elevation of the profession of Pharmacy, to ask you to continue to extend to us the aid you have so freely and generously offered and given in the years past

for the maintenance of the official standards of the various preparations of the United States Pharmacopœia, and National Formulary. Both are your and our official guides and whose formulas will supply your needs for the cure and relief of the sick, in lieu of the various patent, trade-mark products, which now flood our markets.

Allow us also to express our united wishes that your deliberations in convocation may redound in action to your best interests, individually and collectively, and to reiterate afresh, our reciprocal sentiments of brotherly friendship, and to hope for a continuance of the same good feeling between the two associations, and ere you adjourn, that you will appoint a committee to visit our next annual meeting at Buena Vista Spring Hotel Franklin County, June 21 to 23, and thus over the symbol of our mutually-clasped hands, let there be spoken in words of living power *esto perpetua*.

The permanent members and delegates to the Medical Society of the State of Pennsylvania were formally welcomed by Dr. G. W. Berntheisel, Columbia, President of the Lancaster City and County Medical Society.

It was voted on motion of Dr. W. T. Bishop that Dr. Gerhart and Dr. Heinitsch be invited to take seats on the platform.

Dr. A. R. Craig, Columbia, Chairman Committee on Arrangements and Credentials, presented the program, which was adopted as the official order of business for the several sessions.

Three permanent members, Drs. C. G. Trexel, of Honeybrook, H. L. Orth, of Harrisburg, and Henry Beates, Jr., of Philadelphia, not having credentials, upon being properly vouched for, were, upon vote, seated.

Dr. H. G. McCormick, of Williamsport, on behalf of the members of the Legislative Committee of 1890-3, presented President Weidman with a silver-mounted gavel.

It was voted that all members of the Lancaster City and County Medical Society who are not permanent members or delegates be invited to a seat at the sessions.

Dr. S. S. Towler, Marionville, presented the report of the Committee on Scientific Business, which was as follows:

To the State Medical Society:

The Committee on Scientific Business report that an agreement as to arrangement of scientific program was reached early in December, 1897. That notice of the arrangement was made in the official organ, "The Pennsylvania Medical Journal." That the members of this society have been kept fully informed of all proceedings and intentions through The Journal, and the mailing to each

member of each County Society of a circular letter of information. That the *Philadelphia Medical Journal* and the *Philadelphia Polyclinic*, also took an interest in the work and gave kindly notices in reference to the program and this meeting. The result is 67 scientific papers (not including addresses), and one special lecture through the kindness of our fellow member, Dr. J. T. Rothrock. Applications from seven members for place arrived too late. The time set for closing the list was April 1, but the list was kept open until April 7, to allow time for missent and delayed mail. The seven referred to arrived after the list had been arranged and sent to the chairman of the Committee on Arrangements, Dr. Alex. R. Craig. Two papers from persons not members of the society or profession, and of a commercial character, were refused. One paper Dr. Edwin Rosenthal's, was left off the program by mistake of the printer. Valuable assistance has been given the committee by the Secretary, Dr. C. L. Stevens, and a number of other members of the society. This work has cost for 3,000 one-cent envelopes, \$35.40; printing \$11.00; extra postage, besides circulars, \$7.00; total, \$53.40. Vouchers for these expenditures are attached and an order for payment requested. Two thousand seven hundred circular letters were used; 350 written letters to officers and members of the state and county societies were mailed, and 150 were received.

All of which is respectfully submitted,

S. S. Towler, Chairman.

On motion the report was received and filed, and the bills referred to the Board of Trustees.

On motion of Dr. A. R. Craig, it was voted that Dr. J. Aug. Ehler, Lancaster, the oldest member present, be invited to a seat on the platform. He accepted the invitation and made a short address.

The Secretary's Report was read, received and ordered filed.

REPORT OF THE SECRETARY.

May, 17, 1898.

To the Officers and Members of the Medical Society of the State of Pennsylvania:

There are now fifty-seven societies in affiliation with this society with a total membership at this date of 3,194; 1,317 of whom are permanent members of this society, not counting the delegates to this meeting.

Your secretary has received for the society during the year, the Traill Green Memorial Volume, the Transactions of the Berks County Medical Society, and of the Luzerne County Medical Society, and the Transactions of the following societies: Colorado State Medical Society, Connec-

ticut Medical Society, Medical Society of Delaware, Maine Medical Association, Massachusetts Medical Society, Medical Society of New Jersey, Medical Society of the State of New York, Medical Society of the State of North Carolina, Ohio State Medical Society, Oregon State Medical Society, South Carolina Medical Association, Tennessee State Medical Society, Utah State Medical Society, Vermont State Medical Society, and the Wisconsin State Medical Society.

Respectfully submitted,
C. L. Stevens, Secretary.

The Treasurer's Report was received and referred to the Auditing Committee.

THE TREASURER'S REPORT.

Your Treasurer would respectfully submit the following report:

1897.

May 17, To cash balance, as reported last annual report\$2,623.66

1898.

May 9, To gross receipts (dues) from County Societies during the year. 3,717.85

May 9, To cash interest on deposits to date 48.51

May 9, Total\$6,390.02

1898.

Cr.

May 9, By cash expenditures during the year\$3,669.55

May 9, By cash balance in bank 2,720.47

May 9, Total\$6,390.02

STATEMENT.

All the Counties having the honor of being in affiliation with the State Society (fifty-four in number), have paid their assessment in full.

Out of the above number seventeen (17) only, however, paid within the thirty days (30), the time required by the constitution.

The following is the list of Counties so responding, in the order of promptness.

Northumberland, Greene, Venango, Huntingdon, Lebanon, Bucks, Chester, Dauphin, Columbia, Luzerne, Centre, Armstrong, Snyder, Schuylkill, Butler, Bradford, Lehigh (17).

After the thirty days, or Aug. 11, 1897, the following counties were heard from, namely: York, Philadelphia, Westmoreland, Tioga, Washington, Allegheny, Crawford, Cambria, Indiana, Clinton, Fayette, Lackawanna, Carbon, Warren, Beaver, Lancaster, Montgomery, Lycoming, Mercer, Berks, Erie, Franklin, Cumberland, Perry, Blair,

Juniata, Susquehanna, Clarion, Mifflin, Northampton, Delaware, Elk, Bedford, McKean, Montour, Clearfield, Somerset, Jefferson (37).

Geo. Benson Dunmire, Treasurer.

The report of the Board of Trustees was presented, and, upon vote, accepted and referred to the Committee on Publication.

(To be published in July number.)

Dr. Adolph Koenig, Pittsburg, presented the Report of the Committee on Publication, and, on motion of Dr. W. T. Bishop, it was received, and a vote of thanks extended to Dr. Koenig and his committee.

REPORT OF THE COMMITTEE ON PUBLICATION.

In accordance with the action taken by the society at the meeting in Pittsburg, May, 1897, the Transactions have been published in journal form, under the editorial supervision of the chairman of the committee. A copy of the publication, The Pennsylvania Medical Journal, was mailed to every member of each County Medical Society in good standing, about the 20th of each month, at a total cost to the society of \$2,400.

In addition to the monthly copies mailed to the members of the county societies, averaging about 3,000 in number, 50 extra copies of the June issue, 25 of July issue, 200 copies of all subsequent months have been printed for the use of the Board of Trustees, at one-half the cost of individual subscription, at a total cost of \$172.92. These extra copies remain in the hands of the committee with the exception of January and February, of which issue 50 copies of each have been distributed to new members. Over and above the number of copies furnished to members and the Board of Trustees, the publisher has distributed monthly, without cost to the society, 117 copies in exchange with other journals of the United States, Canada and Europe. Forty-seven copies have been distributed gratis, to as many state and territorial medical societies, the large majority, however, dating from January, 1898. One thousand five hundred reprints of the Charter and By-laws, printed in the July issue, were made and distributed to the various county societies, pro rata with their membership in the state society at a cost of \$17.50.

Besides the official business transactions, addresses and papers read at the meeting in May, 1897, there were published editorials, book reviews, current medicine and reports of meetings of county societies, together with papers read at meetings not regularly reported. The committee desires to direct special attention to these reports, and hopes that this feature will be made a more

prominent one in the coming year. All papers read at the meeting in 1897, were published under the head of original articles, with the exception of three. These, having previously been published in other journals, were inserted under the head of "Secondary Department of Official Transactions." Reprints of addresses and papers, whenever desired, have been furnished at cost.

In keeping with the agreement made by the publisher, the advertising pages have been kept free from all unethical advertisements; reference to said pages will show that all secret, trade-marked or patented medicines, or medicinal preparations, were rigidly excluded.

In conclusion the committee respectfully requests that all addresses and papers read at the annual meetings, be first published in the official organ of the society, this rule, however, not to prevent the publication of abstracts in other journals.

Signed in behalf of the Committee,

Adolph Kœnig,

Chairman.

Edward Jackson,
Secretary.

Report of Committee on Pharmacy was read, and, on motion ordered filed, as follows:

Mr. President and Members of the Medical Society of the State of Pennsylvania:

Your Committee on Pharmacy respectfully submit the following report: While new and valuable contributions and additions have been made to our Pharmacopœia, yet your committee would suggest that among the so-called "Old remedies" are many which if properly and palatably prepared for the use of the profession would be more practical and efficient than many of the much advertised and wholly inefficient preparations under great and glowing titles with a large array of testimonials.

Your committee, while reporting the new synthetic and chemical agents for our use in the fight with disease, which have proven sufficiently active to be entitled to comment, would still adhere to the statement first made, and assure the medical profession that if the pharmacist is alive and alert to the situation, we will be greatly aided by the superior product of his skill as compared to the many unsightly mixtures and nauseous powders formerly dispensed. Much has been accomplished on these lines, and the result is noticeable in the elegant preparations of the Pharmacopœia and National Formulary.

We desire to especially call the attention of physicians to the great advance made by the skilled pharmacist, and the increasing desire on their part to assist us by all means in their power, and we thankfully acknowledge their efforts in the

direction of securing true scientific pharmaceuticals. The true pharmacist regrets deeply the effort of some to lower the standard of their profession, and the resulting commercialism, and we heartily endorse all measures which are for the elevation and progress of medicine, trusting that soon will the standards be raised which will place the profession of pharmacy upon a firm scientific basis, with less commercial and more earnest scientific research.

Many new remedies have been produced during the past year, and many which have appeared upon the records have sunk into oblivion. We intend to mention those which have proven by repeated use to be most likely to obtain prominence, some of which have been accorded a place in the new Russian Pharmacopœia (5th edition).

Acid Camphoric, though in a measure on the retired list, has again been brought forward, especially by Prof. Hare, of Philadelphia, for the night sweats of phthisis.

Acid Picric, in like manner is again prominently noticed both abroad and in this country as of great utility in the treatment of burns.

Bismuth Oxy-Iodo-Gallate, has for the past year been largely used as an antiseptic of importance in superficial ulcers, burns, conjunctivitis, prurigo, gonorrhœa, metritis, acute, chronic and tubercular diarrhœa.

Bromoform continues to be used in whooping cough, and is recommended to be given dropped on sugar rather than in mixture, owing to its precipitation.

Anhydro-Gluco Chloral is recommended in insomnia, by Dr. Tyson, of Philadelphia.

Bismuth Sub-Gallate, as an odorless, non-irritant, non-toxic styptic, has proven a substitute for iodoform, and being tasteless, it is advantageous in the treatment of diarrhœas from whatever cause.

Sodio-Theobromine Salicylate, in dropsies of renal origin has proven sufficiently efficacious to be in the additions officially recognized by the Russian Pharmacopœia.

Eucaïne, according to some reports, is proving better than cocaine, giving better results with a toleration of much larger doses. Another advantage which this remedy possesses is that a solution may be sterilized without decomposition and may be kept for a long time—indeinitely—Dr. E. R. Squibb, of New York, says, if the solution be boiled from time to time. There are two varieties of this drug under the title of "Eucaïne A." and "Eucaïne B." The latter being free from irritating qualities with less toxicity, it being used largely in ophthalmic surgery in a 2 per cent. solution.

Formaldehyde, 40 per cent. solution, is a recognized antiseptic, germicide, deodorizer and disinfectant, and has received nearly universal commendation.

Guaiacol has been much reported upon, and many have found it useful in pyrexia, tuberculosis, and locally in erysipelas and rhus poisoning. Guaiacol valerianate, guaiacolate of piperidine, guaiacol phosphate, guaiacol phosphite, and guaiacol carbonate are the compounds produced and recommended.

Di-methyl-piperazin Tartrate has been commented upon as having virtues which recommend it for rheumatism, gout and uric acid diathesis generally, it being claimed that its solvent power over uric acid and urates is sometimes greater than of lithium.

Methylene Blue continues to receive attention, and many are the comments for and against it. The chief adverse opinion being that toxic symptoms have manifested themselves even in small doses. Its local application to epitheliomas and internally in malaria and rheumatoid arthritis have been the chief trend of reports.

While the above new chemical compounds have been brought to the attention of the physician, many improvements in the line of dispensing older remedies have been made, and we therefore mention a few of prominence:

1. Solution of the Hypophosphites Compound, without sugar, producing no nausea or fermentation.

2. A perfect solution of iron manganese and pepsin "Liq. Manganoferris peptonatus" so combined as to dispose of any negative results in the organism and allowing full assimilation. These have been furnished on a large scale by Wyeth & Bro., of Philadelphia, who also make the Elix. Compound Pepsin Powder, of the National Formulary, combined with quinine, iron et strychnine. Other combinations of the National Formulary and Pharmacopœia are found greatly surpassing those of former editions, and by their palatableness and elegance have proven of marked advantage to the medical profession, and in closing our report, we would most earnestly reiterate what has been well said in former reports that we believe our interests would be greatly enhanced should every physician in active practice have copies of the Pharmacopœia and National Formulary on their office table, and not only have them, but study them well, and we can assure all that a new increasing interest will be taken in this branch of our profession, and further, that we shall profit thereby.

Thanking in an especial manner for courtesies

extended the chairman of your committee by Dr. E. R. Squibb & Son, of Brooklyn, and Wyeth & Bro., of Philadelphia, we hereby respectfully submit this report.

*Irving R. Schoonmaker, M.D.,
Chairman Committee on Pharmacy.*

Dr. W. Murray Weidman presented the report of the Committee on Rush Monument Fund:

To the President and Members of the Medical Society of the State of Pennsylvania:

In 1895 the Permanent Secretary reported the total membership of this society as 1,300. (See Trans. American Med. Ass., May 18, 1895.)

The Committee on Rush Monument having the recorded names of each contributor in the State of Pennsylvania, as they have been able to discover them, find \$1,700 have been contributed in accordance with the resolution adopted in 1886, making the limit of contribution to be \$1.00 for each member of the profession.

At Philadelphia last year, at the meeting of the American Medical Association, it was resolved to raise \$100,000 for this testimonial to Dr. Benjamin Rush. Your President, following the example of Colorado, New York, and Ohio, pledged your society for an additional sum of \$2,000.

Since then, Allegheny County has given assurance that \$500 is ready whenever the balance is secured.

It now rests with this society during the present session to determine whether this pledge shall be redeemed, viz., by an assessment of 65 cents on each of the 3,200 members now reported, or by authorizing the President and Chairman of the Rush Monument Committee to draw upon the Treasurer for the full amount, or such portion thereof, when the National Committee on Rush Monument gives assurance that such necessity exists, to insure the completion of this long desired tribute.

W. Murray Weidman, Chairman.

On motion of Dr. W. S. Foster, it was voted that the report be referred to the Board of Trustees and that the Board be requested to make their recommendations Wednesday morning.

The report of the Committee on Increase of Membership and Extension of Polyclinic Teaching was presented as follows:

REPORT OF THE COMMITTEE ON EXTENSION OF POLYCLINIC TEACHING AND INCREASE OF MEMBERSHIP.

Mr. President and Members:

At the meeting in Philadelphia in 1894, on motion of Dr. W. T. Bishop, the officers of the society were constituted a committee to endeavor

to secure all members of the regular profession as members and active workers in the county and state societies. That committee in their report at the end of the year recommended the appointment of a committee of five to serve three years and to be known as the Committee on Extension of Polyclinic Teaching and Increase of Membership. The three years expire with this meeting, and we make this our final report. The expenses for this year have been \$45.15; and for the three years \$143.43. During the year the Lawrence County Medical Society has been reorganized, and the Potter County Medical Society organized, making four new societies and four reorganized societies during the three years. The net increase of membership during the year has been 398, and for the three years 632. Since the appointment of our committee no society has been reported by the treasurer of the state society as having failed to pay its dues.

At the suggestion of Dr. Hamaker, who is a member of our committee and also of the State Board of Medical Examiners representing our society, the attention of each member of the classes examined by our Board of Examiners during the year has been called to the desirability of early becoming a member of the county society, and blank applications for membership have been distributed. This effort, as well as other work of the committee, has been less effective than desirable owing partly to the lack of uniformity in the conditions of membership in the various societies. Your committee respectfully ask the society to recommend to the several county societies that for the sake of more uniformity their constitutions be changed, as far as may be practical, so as to conform to the following conditions:

1. The society year to begin with January.
2. Members in good standing of a county society, removing to another county, to be entitled, on ballot, to a letter of dismissal and recommendation to the society of the county into which they move.
3. Physicians presenting to any society a recent letter of dismissal and recommendation from one of our county societies to be entitled to a ballot for membership without any probationary residence and without the customary delay of the report of the censors until a future meeting; and upon election to become members without paying any initiation fee.
4. Physicians examined by our State Medical Examining Board and granted a license by the Medical Council, and registered in the county, to be entitled to the regular censors' report and ballot for membership without serving any probationary period of practice or residence.

Twenty engagements for lectures have been

made through the committee during the year. These societies report that the influence of the visiting lecturers tends towards a more active work on the part of members rather than otherwise as has been inferred by some not making the trial. The February number of the Journal contains a list of 85 members of this society who have consented to visit societies when the request comes through this committee.

In conclusion your committee desires to call attention to the fact that a county society, to be prosperous and progressive, must be conducted in the interest of the profession. Every eligible physician in the county should be sought after and made welcome when he visits or joins the society. The question should be not so much "will such a physician be a help to the society" as "cannot the society be a help to the physician."

*A. C. Wentz,
Thos. D. Davis,
W. D. Hamaker,
C. L. Stevens, Chairman.*

On motion, the report was referred to the Judicial Council with instructions to return with recommendations Wednesday morning.

Report of the Committee on Legislation was presented by Dr. I. C. Gable, accepted and ordered filed.

REPORT OF THE COMMITTEE ON LEGISLATION.

At the last meeting of this society, held in Pittsburgh, May, 1897, the Committee on Legislation made its report on all matters referred to it at that time. The report was received and the recommendations adopted. Since that time our State Legislature has not been in session and nothing has been referred to this committee for legislative action; therefore, your committee has not been burdened with work the past year and has nothing further to report at this time.

Respectfully submitted,

*I. C. Gable,
Chairman.
H. L. Orth,
Alex. Craig.*

Dr. H. G. McCormick, President of the State Board of Medical Examiners, representing this society, stated that a full report of the State Medical Council was in the hands of the printer and would soon be ready for distribution.

Dr. H. G. McCormick, Williamsport, offered the following amendment to the Constitution: "To amend Article V. Strike out third Tuesday of May and insert second Tuesday of September." The proposed amendment was signed by Drs. H. G. McCormick, H. S. McConnell, T. P. Simpson, W. S. Foster, and T. C. Detwiler.

The President stated that by the By-Laws the

Auditing Committee consisted of himself as President, Dr. M. Albert Rhoads as Chairman of the Board of Trustees, and that he would appoint Dr. J. L. Zeigler, of Lancaster, to complete the committee.

Communications were presented by Dr. Towler, Chairman Committee on Scientific Business, from Drs. J. C. Willson, Gertrude Walker, and Ada H. Audenreid, all of Philadelphia, stating that they would not be able to be present, and upon motion it was voted that at the proper time their papers should be read by title and referred to the Committee on Publication.

Meeting adjourned at 10:50.

Tuesday Afternoon Session.

The afternoon session was called to order at 2 P. M. by the President.

The "Address in Medicine," read by Dr. H. S. McConnell, New Brighton.

"Alcohol," read by Dr. J. M. Batten, Pittsburg.

"The Ice Treatment in Pneumonia," read by Dr. T. J. Mays, Philadelphia, and discussed by Drs. Judson Daland, Philadelphia; H. S. McConnell, New Brighton; S. T. Davis, Lancaster; G. W. Hiatt, Pittsburg; Samuel Birdsall, Susquehanna, and S. Solis Cohen, Philadelphia, Dr. Mays closing the discussion.

"Tuberculous Cirrhosis of the Liver," read by Dr. J. I. Johnston, Pittsburg.

"The Variation in Strength and Consequent Unreliability of the More Common Official Preparations of the Materia Medica as Proven by Special Clinical Observation," read by Dr. Henry Beates, Jr., Philadelphia.

The following papers were read: "Therapeutic Fasting in Typhoid Fever," by Dr. Adolph Koenig, Pittsburg; "The Management of Patients with Typhoid Fever," by Dr. S. Solis Cohen, Philadelphia; "Orchitis Complicating Typhoid Fever," by Dr. A. A. Eshner, Philadelphia. Discussed by Drs. H. G. McCormick, Williamsport; H. A. Hare, Philadelphia; G. W. Hiatt, Pittsburg; Judson Daland, Philadelphia; H. S. McConnell, New Brighton. The discussion was closed by Drs. Koenig and Cohen, Dr. Daland making a few additional remarks.

"Opiates in the Treatment of Bronchitis," read by Dr. W. T. English, Pittsburg.

"Observations on the Treatment of Hodgkin's Disease by Arsenic," Dr. J. C. Wilson, Philadelphia, was read by title.

First Vice-President, Dr. Wm. B. Atkinson, Philadelphia, in the chair.

"The Treatment of Toxæmia by Intra-Venous Injections and Hypodermoclysis; and of Aneurism by Electrolysis; of Hemorrhage by Calcium

Chloride," was read by Dr. Hobart A. Hare, Philadelphia.

"Precocious Locomotor Ataxia, and the Argyll-Robertson Symptom; Treatment," was read by Dr. F. S. Pearce, Philadelphia.

"Notes and Observations in Purulent Pleurisy," was read by Dr. W. S. Stick, Glenville.

"Three Cases of Lumbar Puncture in Infants. Affording Distinct Relief to the Symptoms of Leptomeningitis," was read by Dr. J. Madison Taylor, Philadelphia.

The "Address in Hygiene" was read by Dr. A. B. Dundore, Reading.

Dr. John V. Shoemaker, Philadelphia, presented two patients before the society; one with psoriasis, and the other with molluscum fibrosum.

Upon request of Dr. L. F. Flick, Philadelphia, the society voted permission for the withdrawal of his paper on "Contagion, its Meaning and Limitations," because he could not remain in the city over night.

Dr. Hobart A. Hare, Philadelphia, Chairman of the Committee of Arrangements, for the Meeting of the American Medical Association in Philadelphia, last June, stated that he had in his possession a check for \$185.68, a balance remaining in the hands of the committee after paying all expenses of the meeting and after returning some moneys paid to the committee, and as this money belonged to no one in particular, it had been suggested that it be given to the Rush Monument Fund. President Weidman said that this society had already referred the Monument Fund question to the trustees, but he would receive the check and hand it over to them.

Meeting adjourned at 6.10 P. M.

Tuesday Evening Session.

The society and its friends convened at the Court House and were called to order at 8 P. M., by Dr. A. R. Craig, Columbia, Chairman of the Committee of Arrangements. After music by the orchestra, the Hon. W. U. Hensel, of Lancaster, delivered an address of welcome, after which Dr. W. Murray Weidman delivered the President's Address.

Dr. Craig then read the following letter from Prof. Alfred Stille, the secretary and only surviving delegate to the meeting for organization in the City of Lancaster in 1848.

3900 Spruce St., Philadelphia.
April 10, 1898.

Dr. Alex. R. Craig,
Chairman of Committee of Arrangements.

My Dear Doctor:

Yesterday Dr. Musser handed me your note in which, on behalf of the Committee of Arrange-

ments, you courteously invited me to attend the semi-centennial meeting of the Medical Society of the State of Pennsylvania.

You were kind to remind me of my share in the foundation of the state medical society. I have always regretted that the failure of my health in 1851 should have compelled me to withdraw from the active work of the society, although I have never ceased to feel an interest in its increasing influence.

Recent infirmities compel me to deny myself the pleasure I certainly should have enjoyed, in attending the meeting to which you so kindly invite me, and in hearing of the records of the progress of the medical profession in Pennsylvania.

Please assure the Society of my earnest wishes for its continued usefulness.

Yours very sincerely,

Alfred Stille.

Dr. Thomas D. Davis, Pittsburg, offered the following resolution which was unanimously carried:

Resolved, That this society hears with great pleasure the kindly words of greeting of our revered Dr. Alfred Stille, and extends to him our sincere sympathy in his disabilities.

We also express to him our profound sorrow that he cannot be with us on this the fiftieth anniversary of our society which he did so much to organize and foster.

The officers of the society forwarded these resolutions, and in return received the following letter:

*3900 Spruce St., Philadelphia
May 19, 1898.*

*Dr. C. L. Stevens,
Secretary.*

My Dear Doctor Stevens:

I received with great pleasure the resolutions relating to myself which were adopted on the 17th inst., by the Medical Society of the State of Pennsylvania.

If it saddens me to know that I am the only survivor of the physicians who founded the society, it is cheering to receive from those who now form it so touching a mark of their esteem and sympathy.

Yours very sincerely,

Alfred Stille.

Dr. H. G. McCormick, Williamsport, moved a vote of thanks to the Hon. W. U. Hensel and to President W. Murray Weidman for the addresses of the evening, with the request that they furnish copies for publication.

Meeting adjourned at 9.45 P. M.

Wednesday Forenoon Session.

Meeting was called to order at 9.05 by the President. The secretary read the list of members of the Committee on Nominations, which, when completed, was as follows:

Allegheny, Chas. S. Shaw.	Lackawanna, H. D. Gardner.
Armstrong, Chas. A. Rogers.	Lancaster, P. P. Breneman.
Beaver, T. P. Simpson.	Lawrence, Geo. J. Boyd.
Berks, Henry Landis.	Lebanon, S. P. Heilman.
Blair, J. H. Hogue.	Lehigh, C. D. Shaeffer.
Bradford, E. R. Park.	Luzerne, Lewis H. Taylor.
Butler, S. S. Towler.	Lycoming, B. H. Detwiler.
Cambria, G. W. Wagoner.	McKean, T. L. Kane.
Center, W. U. Irwin.	Mercer, Henry Armstrong.
Chester, A. W. Baugh.	Montgomery, John W. Groff.
Clinton, F. P. Ball.	Northampton, P. O. Wickert.
Cumberland, E. S. Berry.	Philadelphia, G. B. Dunmire.
Dauphin, W. T. Bishop.	Potter, E. R. Gustin.
Delaware, W. B. Ulrich.	Schuylkill, B. S. Pollak.
Franklin, A. D. Dalbey.	Susquehanna, S. Birdsall.
Greene, J. T. Ulom.	Warren, J. Howard Allwein.
Huntingdon, D. P. Miller.	Washington, J. Frank Rutherford.
Indiana, W. B. Ausley.	Westmoreland, A. H. Strickler.
York, A. C. Wentz.	

The committee was ordered to meet at the Stevens House at 9.30.

Minutes of Tuesday's sessions were read and approved.

On motion of the Chairman of the Committee on Registration the following permanent members who were without credentials were ordered seated: Jos. M. Corson, Chatham's Run, Clinton Co.; John W. Wright, Erie; Thos. L. Kane, Kane; and J. M. Gemmill, Tyrone.

The President announced the death of Dr. C. R. Early, of Ridgway, a member of Lycoming County Society, and he also read the resignation of Dr. Frank LeMoyne, from the Committee on Scientific Business.

"The Natural Agencies Concerned in the Purification of Polluted Waters" was read by Dr. D. H. Bergy, Philadelphia.

"The Individual Communion Cup and Its Critics," was read by Dr. H. S. Anders, Philadelphia. Discussed by Dr. Theodore Diller, Pittsburg, and Dr. G. B. Massey, Philadelphia. Discussion closed by Dr. Anders.

Dr. Alex. Craig, Columbia, offered the following resolutions:

"Whereas, There are a number of medical associations now convened in different parts of the United States,

"Resolved, That the Medical Society of the State of Pennsylvania extends fraternal greetings to these medical associations, convened elsewhere, and that our secretary be instructed to forward a copy of these resolutions to the secretaries of these societies."

On motion, resolution was adopted.

"Some Points on Infant Feeding," was read by Dr. Edwin Rosenthal, Philadelphia, and dis-

cussed by Drs. H. S. McConnel, New Brighton; T. D. Davis, Pittsburg; Alex. Craig, Columbia. Discussion was closed by Dr. Rosenthal.

"Simple and Satisfactory Method of examining Urine," was read by Dr. Chas. W. Dulles, Philadelphia, and discussed by Drs. Israel Cleaver, Reading; J. I. Johnston, Pittsburg; H. S. McConnel, New Brighton; G. B. Massey, Philadelphia; T. D. Davis, Pittsburg; W. S. Stick, Glenville; G. W. Hiatt, Pittsburg. The discussion was closed by Dr. Dulles.

Dr. J. H. Musser, Philadelphia, Chairman of the Committee on Storage of Archives, reported progress, and requested that the committee be continued. The request was granted.

Dr. J. H. Bittinger, Hanover, fourth Vice-President in the chair.

The "Address in Surgery" was read by Dr. W. L. Estes, South Bethlehem.

"Aseptic Surgery in Country Houses" was read by Dr. Chas. K. Ladd, Towanda.

"The Removal of Stone in the Bladder" was read by Dr. W. S. Forbes, Philadelphia.

"Catgut," by Evan O'Neil Kane, Kane, was read by Dr. T. L. Kane, Kane.

"The Pathology and Surgical Treatment of Chronic Varicose Ulcers of the Leg," was read by Dr. Ernest Laplace, Philadelphia, and discussed by Dr. L. J. Hammond, Philadelphia.

"Excision of the Thyroid Gland," was read by Dr. T. C. Detwiler, Lancaster.

"One Hundred More Mastoid Operations" was read by Dr. B. Alex. Randall, Philadelphia, and discussed by Drs. L. J. Lautenbach, and L. J. Hammond, Philadelphia.

Meeting adjourned at 12.30.

Wednesday Afternoon Session.

Meeting called to order at 1.15 by President Weidman.

Chairman of Committee on Registration reported the following gentlemen as present without credentials and upon vote they were ordered seated: Drs. Joseph B. Colcord, Port Allegheny, McKean Co.; Theo. L. Willetts, Harrisburg; M. O. Putt, Oberlin; I. H. Hartman, West Reading; W. H. Seibert, Steelton; James B. Eby, Newport.

Dr. S. S. Towler presented the report of the Committee on Nominations, which was as follows:

The Nominating Committee of the Medical Society of the State of Pennsylvania, Forty-eighth Annual Meeting, organized by electing Dr. S. S. Towler, chairman, Dr. Chas. Shaw, secretary, Dr. L. H. Taylor, assistant secretary. The following nominations were made by ballot:

(See pages 1 and 2.)

It is recommended that the President and Sec-

retary be instructed to issue credentials to all permanent members desiring to attend state and sister societies as delegates from the Medical Society of the State of Pennsylvania.

*S. S. Towler, Chairman.
Chas. S. Shaw, Secretary.*

Upon vote the report was received and the secretary was instructed to cast an affirmative ballot, which being done, the candidates were declared elected accordingly, and the recommendation regarding delegates adopted.

Mr. J. H. Redsecker, president of, and regularly accredited delegate from the Pennsylvania State Pharmaceutical Association, being present, was on motion accorded the privileges of the floor.

Dr. W. S. Forbes, Philadelphia, referring to the notice of the death of Dr. C. R. Early which the president had read, stated that the late Dr. Early had been a constant attendant at the meetings of both the state and national societies for more than twenty years and offered the following resolutions:

Resolved, That this body tender its sincere sympathies to the family of our deceased member. Carried. A suitable telegram was at once forwarded by the secretary.

"A Case of Unilateral Castration, and Effect on Enlarged Prostate Gland," was read by Dr. J. R. Care, Worcester.

"Delayed Ossific Union in Fractures of the Leg" was read by Dr. S. Birdsall, Susquehanna.

"Technique of Rectal Examinations and Diagnosis," by Lewis H. Adler, Jr., Philadelphia, was read by title.

"Chronic Diarrhea as a Symptom of Rectal Disease," was read by Dr. W. M. Beach, Pittsburg.

"Some Cases of Rectal Surgery," was read by Dr. Alex. Craig, Columbia.

The papers of Drs. Beach and Craig were discussed by Dr. W. S. Forbes, Philadelphia.

"Radical Cure of Hernia by the Method of Nialton-Ombradin, with Report of Cases," was read by Dr. L. J. Hammond, Philadelphia.

On motion by Dr. W. T. Bishop the order of scientific business was suspended to allow Dr. T. P. Simpson to present the following report from the Board of Trustees, as it required immediate attention:

Lancaster, Pa., May 18, 1898.

The Board of Trustees to whom was referred the Report of the Rush Monument Fund Committee respectfully recommed that in order to make good the pledge made at the meeting of the American Medical Association in Philadelphia, June, 1897, the sum of \$2,000 be appropriated to the Rush Monument Fund, and that this amount

be held in trust by the Board of Trustees of this society until a contract for the erection of said Rush monument is accepted. It is further recommended that the per capita assessment of the members of the county societies be increased fifty cents, for this year, in order to provide for this appropriation.

Regarding the Report of the Committee on Increase of Membership, which was also referred to the Board of Trustees, we respectfully recommend that their first suggestion, that the county society year begin with January, be approved; and that suggestions 2, 3, and 4 be not acted upon at this meeting, but left open for the consideration of the several county societies.

All of which is respectfully submitted by your Board of Trustees.

T. P. Simpson, Secretary pro tem.

Dr. Bishop moved the acceptance of the report and the adoption of the recommendations. Seconded and carried.

Dr. T. P. Simpson, Beaver Falls, moved that the publication of the Transactions be continued in journal form. Motion seconded.

Dr. G. N. Higley, Conshohocken, presented a resolution from the Montgomery County Medical Society recommending a return to the practice of publishing the Transactions in book form.

The matter was discussed by Drs. W. T. Bishop, Harrisburg; G. W. Hiatt, Pittsburg; S. S. Towler, Marionville; G. N. Higley, Conshohocken; Adolph Koenig, Pittsburg; E. Jackson, Philadelphia, and C. L. Stevens, Athens. Upon vote, the motion of Dr. Simpson was carried.

Motion to return to scientific business was made by Dr. S. S. Towler, Marionville. Seconded and carried.

"Cancer and its Treatment by the Cataphoric Destruction of its Essential Germs," was read by Dr. G. B. Massey, Philadelphia.

"The Pressing Demand for a Revision and Recast of Surgical Principles, Together with the Birth of some New Ones," was read by Dr. G. W. Hiatt, Pittsburg.

"The Surgical Treatment of Common Deformities of the Face," was read by Dr. J. B. Roberts, Philadelphia.

The "Address in Mental Disorders" was read by Dr. B. H. Detwiler, Williamsport.

"Provisions For the Insane in Hospitals," was read by Dr. John Curwen, Warren, and discussed by Dr. G. B. Massey, Philadelphia.

The President announced that he had received a message from the Illinois State Medical Society acknowledging receipt of fraternal greeting sent, and reciprocating the same.

"A Case of Tabes Showing some Peculiar Re-

flexes," by Dr. T. M. T. McKennan, Pittsburg, was read by title.

"Hypnotism, Dominant and Relaxant," was read by Dr. Geo. E. Bill, Harrisburg.

Dr. Chas. W. Dulles, Philadelphia, read a "Report on Hydrophobia," which was discussed by Drs. T. C. Detwiler, Lancaster; B. H. Detwiler, Williamsport; D. H. Bergy, Philadelphia; M. J. Williams, Scranton. Discussion closed by Dr. Dulles.

The President appointed Dr. Theodore B. Appel, Lancaster, as a member of the Committee on Scientific Business, vice Dr. Frank LeMoyné, resigned, term to expire May, 1901; and Dr. Chas. Dulles, Philadelphia, to succeed himself, his term to expire in 1903.

The following papers were read by title:

"The Simple Extraction of Cataract," Dr. E. Jackson, Philadelphia.

"Ametropia and Muscle-Imbalance in Young Children," Dr. Geo. M. Gould, Philadelphia.

"Concerning Certain Types of Non-Toxic Retro-Bulbar Neuritis. Their Etiology and Treatment," Dr. G. E. de Schweinitz, Philadelphia.

"Some Cases of Injury to the Eyes, Occurring in General Practice," Dr. A. R. Craig, Columbia.

"Ocular Headache," Dr. Gertrude Walker, Philadelphia.

"The Importance of the Early Recognition, and Treatment of Acute Inflammatory Glaucoma," Dr. C. A. Veasey, Philadelphia.

"The Treatment of Contagious Diseases of the Eye by the General Practitioner," Dr. S. L. Zeigler, Philadelphia.

Dr. G. B. Massey moved that the "Address in Mental Disorders," read by Dr. B. H. Detwiler, Williamsport, be referred to the Legislative Committee with instructions to consider the recommendations. Seconded and carried.

Meeting adjourned at 5.45.

Wednesday Evening Session.

The society met at 7.30 P. M., and listened to an illustrated lecture by Dr. J. T. Rothrock, Commissioner of Forestry for Pennsylvania, after which the members were entertained by the faculty and ladies of Franklin and Marshall College and of the Theological Seminary.

Thursday Morning Session.

Meeting called to order by President Weidman at 9.10.

Minutes of Wednesday's sessions read and approved.

Chairman of Committee on Registration announced that Drs. John Lear, Allentown; J. S. Hileman, Pittston; and H. Herbert Herbst, Allentown, permanent members of this society,

were present without credentials, and, upon vote, they were ordered seated.

"Corneal Ulcers, Varieties and Treatment," was read by Dr. Jos. E. Willetts, Pittsburg, and discussed by Dr. Louis J. Lautenbach, Philadelphia.

"Determination of Errors of Refraction by the Skiagraph During Sleep," was read by Dr. J. P. Kress, Allentown.

Papers on "Puerperal Eclampsia" were read by Drs. Morgan J. Williams, Scranton, and B. S. Pollock, Pottsville.

"Extra-Uterine Pregnancy, with Report of Cases," was read by Dr. G. D. Nutt, Williamsport.

These last three papers were discussed by Drs. G. B. Massey, Philadelphia; E. E. Montgomery, Philadelphia; C. P. Noble, Philadelphia; J. C. Da Costa, Philadelphia; M. Price, Philadelphia; G. M. Boyd, Philadelphia; T. C. Detwiler, Lancaster, and the discussion was closed by Dr. M. J. Williams.

"Gynecological Reflexes," was read by Dr. J. M. Baldy, Philadelphia, and discussed by Drs. G. B. Massey, Philadelphia, W. B. Ulrich, Chester, G. W. Hiatt, Pittsburg, and C. P. Noble, Philadelphia.

Papers on "Conservative Treatment of Fibroid Tumors of the Uterus," were read by Drs. E. E. Montgomery and Chas. P. Noble, Philadelphia, and discussed by Drs. Israel Cleaver, Reading; G. B. Massey, Philadelphia; J. C. Da Costa, Philadelphia, and the discussion closed by Drs. Montgomery and Noble.

"Treatment of Prolapsus Uteri," Dr. X. O. Werder, Pittsburg, was read by title.

"The Use of the Curette" was read by Dr. M. Price, Philadelphia, and the paper discussed by Drs. J. C. Da Costa, Philadelphia; W. B. Ulrich, Chester, the discussion being closed by Dr. Price.

A letter was received by President Weidman from Prof. Louis Fischer, containing regrets of his inability to be present.

Dr. Louis J. Lautenbach, Philadelphia, presented the following:

Whereas, For over 15 years there has been allowed to go uncorrected an error in school textbook of physiology, extensively used in the public schools, and this mistake has undoubtedly caused considerable suffering, as well as misapprehension;

Resolved, That the Medical Society of the State of Pennsylvania appoint a committee to examine the various school text-books pertaining to physiology, hygiene, and allied subjects, and that such action on errors or inaccuracies that they may deem advisable, and report their results to the society annually.

On motion properly seconded, this resolution was adopted.

The following resolution was presented by Dr. A. R. Craig:

Whereas, The three years for which the Committee on Extension of Polyclinic Teaching and Increase of Membership has expired,

Resolved, That the committee be continued for another three years, and that an annual appropriation of fifty dollars, or as much of this amount as may be necessary, be appropriated for the use of the committee.

On motion properly seconded this resolution was adopted.

Meeting adjourned at 12.40.

Thursday Afternoon Session.

Society met in Fulton Opera House and was called to order at 2.05 by President Weidman.

Chairman of the Committee on Registration reported Drs. E. Tracy Bishop, Washington County, and Martin L. Wolford, Harrisburg, permanent members as being present without credentials. Upon vote they were ordered seated.

"Some Experiences in Operative Gynecology," was read by Dr. Anna M. Fullerton, Philadelphia.

"The Primary Malignant Diseases of the Corpus Uteri, and the Practical Value of the Microscope in Establishing an Early Diagnosis," was read by Dr. H. L. Williams, Philadelphia.

"Some Things Which Ought to be Done and Some Things Which Ought not to be Done by the General Practitioner, in the Treatment of Diseases of the Ear," Dr. Ada H. Audenreid, Philadelphia, was read by title.

"Nasal Catarrh, and its relation to Diseases of the Ear," was read by Dr. W. S. Brenholtz, Lancaster, and discussed by Drs. L. J. Lautenbach, Philadelphia, and S. S. Towler, Marionville.

"Rupture of the Ear Drum not Necessarily Incurable," was read by Dr. Louis J. Lautenbach, Philadelphia, discussed by Dr. S. S. Towler and closed by Dr. Lautenbach.

On motion, Dr. J. N. Richards, a permanent member from Bucks Co., without credentials, was seated.

President Weidman announced the regrets of Dr. Wray Grayson, second vice-president, at his inability to be present.

Dr. Theodore Diller read a paper on "The Mental Hygiene of the Adolescent Period."

The following report of the Auditing Committee was made by President Weidman:

The Auditing Committee, appointed by the society, have fulfilled their duty in examining the books and accounts of your Treasurer, Dr. G. B. Dunmire. They find the accounts correct.

They find his plan in keeping your accounts so clear and free from the possibilities of error that they would suggest that his system of accounts be followed by his successor, if in the process of time such a change be deemed necessary, as by this method there can be no question of the accuracy of the financial statements of your treasurer.

W. Murray Weidman, Chairman.

On motion of Dr. C. L. Stevens the Legislative Committee was continued for another year.

President Weidman appointed a committee according to Dr. Louis J. Lautenbach's resolution as follows: Dr. Louis J. Lautenbach, Philadelphia. Dr. Israel Cleaver, Reading. Dr. R. B. Wilson, Lock Haven. Dr. O. F. Harvey, Wilkesbarre, and Dr. John Fay, Altoona.

On motion of Dr. W. T. Bishop it was moved that a committee be appointed to confer with the State Bar Association upon any medico-legal matters.

The following was introduced by Dr. L. H. Taylor, Wilkesbarre:

Whereas, There are large areas in this state which are high, naturally, poor and without mineral value, and from which the timber has been removed, and which are abandoned to fire; and,

Whereas, These same areas, so valueless to individuals, are of the utmost importance to the commonwealth, in the interest of public health and for the maintenance of an even water flow in the streams of the state; Therefore, be it

Resolved, By the Medical Society of the State of Pennsylvania, that the commonwealth should follow the example of the State of New York and of the most advanced governments of the Old World, and possess itself of these areas now, while it may be cheaply done, and before they have become further impoverished. Upon vote, resolution was adopted.

Drs. Alex. Craig and S. S. Towler were appointed a committee to escort the President-elect to the platform and he was inducted into office by President Weidman, who said, "I hereby present you with the Charter and the By-Laws of this society, and also the gavel which was presented to the society by the Schuylkill County Medical Society, at the meeting of the state society in 1881. In your hands I know that it will command respect."

Then Dr. Weidman, on behalf of the publisher of the Pennsylvania Medical Journal, presented to the society a bound copy of Volume 1, and delivered it into the hands of the secretary.

On motion of Dr. S. S. Towler, a vote of thanks was passed to the retiring president for the gentlemanly, impartial and able manner in which he

has presided over the sessions of this meeting, and a vote of thanks also to the Committee on Arrangements, and to the faculty and ladies of Franklin and Marshall College and of the Theological Seminary, and to the people of Lancaster for the many courtesies extended to the society and its members.

Dr. Weidman said:

I wish to thank the members of the Medical Society of the State of Pennsylvania for this additional evidence of your esteem and confidence, and I beg you to accept my sincerest and warmest thanks.

President Lowman announced the following appointments:

To Deliver Addresses:

Address in Medicine, Dr. J. C. Lange, Pittsburg.

Address in Surgery, Dr. G. W. Guthrie, Wilkesbarre.

Address in Obstetrics, Dr. B. F. Hall, Lock Haven.

Address in Hygiene, Dr. W. M. L. Coplin, Philadelphia.

Address in Mental Diseases, Dr. H. L. Orth, Harrisburg.

Address in Laryngology, Dr. D. Braden Kyle, Philadelphia.

Committee to Confer with State Bar Association:

W. T. Bishop, Harrisburg.

W. Murray Weidman, Reading.

S. S. Towler, Marionville.

H. G. McCormick, Williamsport.

J. B. Roberts, Philadelphia.

Committee on Pharmacy:

James I. Johnston, Chairman, Pittsburg.

John Fay, Altoona.

D. P. Miller, Huntingdon.

Wm. B. Ansley, Saltsburg.

H. H. Brotherlin, Hollidaysburg.

Committee on Legislation:

I. C. Gable, Chairman, York.

Alex. Craig, Columbia.

H. L. Orth, Harrisburg.

Committee to Examine School Text-Books:

Louis J. Lautenbach, Chairman, Philadelphia.

Israel Cleaver, Reading.

R. B. Watson, Lock Haven.

O. F. Harvey, Wilkesbarre.

John Fay, Altoona.

The minutes of Wednesday evening and Thursday's sessions were read and approved.

The society then adjourned to meet in Johnstown on the third Tuesday in May, 1899.

C. L. Stevens, Secretary.

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The Official Organ of the Medical Society of the State of Pennsylvania.

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OFFICERS FOR THE YEAR 1898-1899.

PRESIDENT:

Webster B. Lowman, Johnstown.

VICE-PRESIDENTS:

First—R. B. Watson, Lock Haven.
Third—J. Aug. Ehler, Lancaster.

Second—G. W. Guthrie, Wilkes-Barre.
Fourth—Henry Landis, Reading.

SECRETARY:

C. L. Stevens, Athens.

ASSISTANT SECRETARY:

G. W. Wagoner, Johnstown.

TREASURER:

George Benson Dunmire, 1618 Spruce St., Philadelphia.

BOARD OF TRUSTEES AND JUDICIAL COUNCIL.

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John H. Packard, Philadelphia.
John Curwen, President, Warren.

R. Armstrong, Lock Haven.
I. C. Gable, York.
W. T. Bishop, Harrisburg.

Theo. P. Simpson, Secretary, Beaver Falls.
Henry Beates, Jr., Philadelphia.
Thos. D. Davis, Pittsburg.

COMMITTEE ON ARRANGEMENTS AND CREDENTIALS.

G. W. Wagoner, Chairman, Johnstown.

COMMITTEE ON PUBLICATION.

Adolph Koenig, Chairman, 108 Ninth St., Pittsburg.

COMMITTEE ON PHARMACY.

James I. Johnston, Chairman, Pittsburg.

COMMITTEE ON INCREASE OF MEMBERSHIP AND EXTENSION OF POLYCLINIC TEACHING.

C. L. Stevens, Chairman, Athens.

COMMITTEE TO EXAMINE SCHOOL TEXT-BOOKS.

Louis J. Lautenbach, Chairman, Philadelphia.

COMMITTEE TO CONFER WITH STATE BAR ASSOCIATION.

W. T. Bishop, Chairman, Harrisburg.

Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

Addresses.

[Delivered at the Meeting of the Medical Society of the State of Pennsylvania at Lancaster, May 17, 1898.]

ADDRESS IN HYGIENE.

BY A. B. DUNDOR, M. D., OF READING.

We have the honor of performing a duty imposed upon us by our worthy president, the responsibility of which makes us tremble in the presence of so intelligent an audience; and we believe that a serious mistake was made in not filling our place with someone else, who would be far more competent to represent before this association what is now one of the most important departments of our learned profession, namely, that of hygiene. We do not pretend to present

anything that is new, or of any particular scientific merit, but simply to aim along the line of common sense and practicability.

The practical development of the science of hygiene is comparatively of recent origin, and is really covered by one's professional life time.

Very little was said on this subject when we attended medical lectures thirty-five years ago. The bacteriological world was still in darkness, and undisturbed by the rays of scientific investigation. But, as microscopic researches were already rapidly expanding under the persevering and unrelenting observations of the scientist, a very short period only remained, before worlds of micro-organisms stepped into the field of vision, both to the astonishment and admiration of all students of science, who were grappling after the cause and effect of

diseased conditions in the human economy.

Tremendous advances have been made ever since, in the development of means and measures calculated to preserve the public health. Since many, if not the greater number, of all diseases that afflict the human race are due to these living organisms, it becomes the office of all sanitarians to exert their most strenuous efforts to modify or prevent as far as possible the growth and propagation of these living germs, and in the next place, to prevent their entrance into the human body.

Let us remember, that no matter how laudable and how important any subject may be, there is always some tendency of scientific enthusiasts to overdraw the picture, and to step into fields that become untenable, when it becomes necessary to put scientific theories into universal practice. We constantly come in contact with widely diversified local and general conditions, as well as with opposing and individual and public opinions and sentiments, which not only puzzle, but frequently prevent the most intellectual and scientific, to harmonize and persuade such discordant elements to submit to the situation under consideration.

The most extreme measures by no means always accomplish the greatest amount of good, especially when such measures affect whole communities, or the public at large.

Sanitarians, in order to be successful in reaching the greatest number of people, must be actuated by a spirit of conservatism, and in their intercourse with the common people they must employ common sense arguments, instead of trying to expound to them the most intricate scientific theories involved.

Let us skim over the field before us, and possibly linger somewhat upon a few such subjects as are now more particularly engaging the attention of sanitarians.

Those who are devoted to the study of forestry, are now trying to restore our forests, in order to resuscitate our beautiful

and fresh mountain streams, in which once sported the speckled trout, and which used to furnish to the inhabitants of the rural cottages along their meandering courses, as well as those of the villages and the more crowded cities, with perfectly pure and fresh drinking water; and, furthermore, to favor greater rainfall and greater thrift among the cereals and vegetation throughout our fertile valleys. And now, since our populations are rapidly increasing in every direction, and the raising of cattle, pigs and domestic fowls is proportionately multiplied, in order to supply sufficient food for the sustenance of life, there necessarily results in a similar ratio increased waste products, such as human and animal dejecta, vegetable waste, and the many other various refuse products from butcher shops, kitchens and wash-houses, which, when in the process of decomposition or decay, are liable to enter our streams of water, and pollute the same in such a manner as to endanger the health and lives of the people, who are dependent upon them for their water supply for all needful purposes.

Since drinking-water is the most ready medium through which disease-breeding bacteria are introduced into the human body, the purification of our water supplies is very justly beginning to receive greater attention perhaps at this time than any other sanitary subject. Much can be said on this topic, and many agencies brought to bear to accomplish this object. Suffice it to say, that where large volumes of water are constantly demanded to supply towns and large cities, the subject of filtration, before the water is allowed to flow into the water mains for distribution, can not be too earnestly agitated, and its adoption too vigorously recommended, since this expedient seems at the present day to promise the most satisfactory results.

Sand filtration, before the water is received into the reservoirs for general distribution, has by successive experimentation been proven to be not only the most ef-

fective process of purification of water supplies, but also the cheapest method of accomplishing this end.

When we take into consideration the many streams of water that unite in making the water supply of cities, and the vast area of territory which they drain, the thought of it almost makes one shudder at the enormous amount of filth that must necessarily be conveyed by them from barn yards, pig pens, water closets, henneries, wash houses, kitchens and industrial establishments; and it takes no effort of the imagination to comprehend how very badly rivers and creeks become polluted, and how great the necessity of adopting measures to purify the same.

In serving water to the individual consumers and the multitude, many other things present themselves, requiring great care and attention. In cities, water mains should always run in continued circuits, and not be allowed to come to a dead end, whereby a closed basin is formed, into which the solid particles of the water are pushed to build up a mass of filth wherein disease-breeding germs may find lodgement and multiply themselves, to be retailed out through the hydrants of the consumers in the surrounding vicinities.

Every person should be instructed to open the spigot of their hydrants, and leave the water run for a few minutes before tapping from it, in order to allow time for the water that stands in the service pipe to run off, and thus avoid the impurities that may have accumulated therein.

It is certainly more than likely, that there is more danger in drinking the water that has been standing quiet in the service or branch pipe, than that drawn after it has been allowed to flow for awhile, and thus get the current water from the main pipe.

Measures should be taken in every city to establish a system of flushing from the fire plugs at fixed and not too infrequent intervals, which would relieve every householder

of a vast amount of filth in the use of water.

Since typhoid fever in particular, as well as other zymotic diseases, are chiefly communicated by the use of water transmitting the specific germs of disease, as well as other impurities which fertilize the soil upon which they live, too much enthusiasm on the score of water purification can scarcely be manifested. But right here is where the tussel between sanitarians and legislators begins, and it is rather a deplorable fact that the former too frequently, or rather, we should say, usually find their money purses too shallow to penetrate the sluggish brains of the latter. Whilst the sanitarian may have the loftiest aims and purposes to benefit humanity in general, and would be amply equipped with ingenuity to execute his noble aspirations, the poverty of his financial resources makes him a very poor and unsuccessful jobber or lobbyist to secure the necessary legislation to carry his theories and problems into effect. Thus the only recourse left for cities which require large water supplies, is sand filtration; and in the country and smaller villages dependent upon small streams, springs and wells, things will be left to take their own course, as long as no state authority can be secured to prevent people from polluting the water that flows through their possessions.

Ice, which is but frozen water, does not receive the attention that it should. There is entirely too much collected and served which is taken from places that are subject to the worst pollution with all kinds of filth that can be conceived of. For instance, it is the custom, in the country districts and smaller towns, to dam up very small creeks, or even simply hollows in the topographical surface to catch up the water of small streams or flood water from heavy rains, and then house and use the ice for domestic purposes from these pools so formed. It must be remembered that these dams or pools of water are of slow accumulation,

and receive and harbor all the filth from the surrounding territory, such as the drainage from barn yards, pig pens, shallow water closets, kitchens and wash houses, which constitute most fertile fields for the reception and propagation of innumerable varieties of bacteria; and if the specific disease germs of typhoid fever, diphtheria, scarlet fever, or dysentery find their way there, these diseases may be readily communicated by the use of this ice in drinking water, since it is generally conceded that the freezing process does not kill disease germs. Therefore, on general principles, it would be highly proper to condemn the use of natural ice, and recommend that which is made by artificial process.

Pig pens, cow stables, horse stables, henneries, pigeon coops and slaughter houses, if not properly kept, create many nuisances in our closely built up cities, and constitute numerous subjects for complaint to our local boards of health, though many of which may effect more the comfort than the health directly, of the people complaining. Pig pens being generally considered nuisances per se, are disposed of without any ceremony, but cow stables, horse stables, henneries and pigeon coops are usually allowed to exist, providing they are kept clean. So far as cow stables are concerned, we think they should be treated similarly to pig pens. A city is no place in which to run dairies, since these cow stables are generally as filthy in every respect as pig pens. Private horse stables, where the horses of carters are kept are also very frequently found in a filthy condition, and their manure piles are left to drain into the gutters of the streets.

The collection of garbage and the disposal of the same demands greater attention. It is not so much the public places, such as hotels, restaurants, groceries, and truck stands, where a collection of refuse matter constitutes the greatest danger to health, but from private families, who are in the habit of dumping their waste matter

into the back yards or on the ash heap, or over the fence into a ten-foot private alley, or, on vacant lots in the vicinity. The former class of people generally have their collections hauled away before decomposition takes place, whilst that of the latter class remains exposed until decomposition does ensue, and thus produces oftentimes very annoying and dangerous nuisances. Although these alleys and open lots contain much of this waste material, it is very difficult to find the parties who are guilty of putting it there. When you come to inquire, you cannot find a single individual within a square or two, who ever deposited there anything of the kind whatever. In the city of Reading the board of health employs a man or two with horse and cart to follow up all private alleys and vacant lots, and gather up and dispose of the same, all the garbage and refuse matter deposited there, the expense of which we believe to be money well expended. Of course all larger cities should have a general system of house-to-house collection, and an incineration plant for the perfect destruction of the whole. We have reason to believe that such will be the case in the near future.

Every city should have an inspector of food products, embracing milk, meats, groceries, vegetables and fruit. No person should be allowed to expose for sale dilute, impure or tainted articles, under a heavy penalty. This thing of selling anything cheap because it is stale, speckled or partially decayed should be stopped. How much intestinal disease is due to children buying penny cantaloupes, bananas or two or three peaches for the same price, because they are partially rotten, can scarcely be estimated; and very much on the same scale are vegetables so disposed of, though, perhaps, with less detrimental results, because they are generally boiled before they are eaten.

It is well ever to keep in mind the maxim: "Cleanliness is next to godliness." Indeed cleanliness is the keystone in the whole

fabric of sanitary science. To our mind it appears infinitely of more importance to direct our efforts toward cleanliness of person, families and communities collectively than to worry our brains over the numberless species of micro-organisms with the most awe-inspiring and unpronounceable titles attached. Yet strange to say, we occasionally meet with some uneducated and unscientific people, who advance arguments on the "con" side of this question that are somewhat startling and inexplicable. For instance, we happened one day to witness the following conversation between our health commissioner and a dump man. By a "dump" man we mean one who superintends a dumping place, where garbage, oyster shells and every other variety of refuse matter is hauled to and dumped; he picking out and assorting all such materials as can be converted into money, and then covering the rest with some earth, keep the place in good shape. Now, while this man was extolling the profits in the business, he all at once most joyfully exclaimed, "and then it is besides the healthiest business on earth, and all these men who work at dumps and cesspool cleaning are as hearty as bucks." "You see," said he, "the fumes that arise from this stuff kill all the malarial poisons and microbes in the air, which makes people sick, and thus we breathe nothing but the purest air." He further said that he never had malaria, and never felt as good as he did ever since he worked at the dump. This was rather a strange theory for us health officers to digest. We immediately brought up to our recollection quite a number of such men whom we knew were employed as above stated, and sure enough found every one of them a hearty and tough fellow; some of them quite old, and in the business for many years. Now if these men who continually work in filth and are surrounded with filth, and yet are found among the most healthy people in the community, one might ask, What is the use in sanitarians being so fastidious on the questions

of sanitary precautions? We do of course not endorse such a theory, yet it is a subject for some reflection.

Much has been said and written about the contagiousness of consumption, and the necessity of isolating such patients. In theory you may be able to harmonize and carry out the opinions you hold, but when it comes to put them to a practical test, the way is strewn with numerous difficulties, some of which may even prove themselves to be insurmountable. It is altogether impractical to gather all consumptives and isolate them from all mankind. Home, parents, wives, husbands, children and friends are just as dear and sacred to them as those of others, and if you separate them from these, they have nothing in this world to live for, and you might as well kill them at once. Only a few could furnish their own support, and the state could not support all the rest. The number is too large. Those in the incipient stage could not be prevailed upon to leave their business, and leave a dependent family to the mercies of charity, and those further advanced feel the more intensely the want of the comforts and cares of those most closely attached to them by family ties; and to separate them by force would be inhumane, nor in accord with personal freedom. Neither can you compel such as are still able, to cease from appearing on our public streets, or in public places and conveyances. And, after all, is the disease really as extensively transmitted by contagion or infection as is claimed by many? Possibly it may have been otherwise with some, but we are unable at this time in an experience of thirty-five years, to call to mind one single case where the old theory of hereditary transmission could not be traced.

Almost everybody now seems to go wild on the germ theory, and believes a specific micro-organism to be the cause of every disease. May not the time possibly come when it will be discovered that these germs are only present by virtue of diseased tissue,

which furnishes them natural food for their existence, rather than that they are *prima facie* the cause of the condition itself? How are you going to stop spitting? Not only consumptives, but all such as are afflicted with throat, bronchial, gastric and liver diseases, as well as the omnipresent tobacco chewer, always did spit, and will continue to spit, and that, too, without carrying a spittoon under their arms wherever they go. The best that could be done in this matter to modify the annoying and bad effects would be to compel by law all public places and conveyances to supply spittle receptacles, and to keep them clean and well disinfected, and, furthermore, you might aim at teaching these cases the necessity of exercising proper care and prudence in their personal habits and surroundings, in order to make themselves less offensive to their families and fellow-men.

There are some common and long established customs in vogue that are highly unsanitary in principle, which from a practical standpoint are extremely difficult to correct. One of these is the custom of indiscriminate kissing. It is well known that the mucous membrane of the lips is supplied with innumerable absorbent vessels, with their mouths patulous and eager to suck in any fluid matter that comes in contact, by which very extensive means are presented for the transmission of disease. It is quite apparent that this universal custom of lady acquaintances kissing each other, upon meeting either in public or at home, as a mode of salutation, and that of everybody kissing everybody else's children, is surely on sanitary grounds, most reprehensible. This indiscriminate kissing ought to be reduced to the lowest possible limit by proper education in our public schools, and the public be impressed with the dangers involved, by a systematic bombardment with suitable literature. We are fully aware that kissing can not entirely be abrogated. God forbid that we should raise our voice against kissing between true lovers, or that between

parents and children. Here we would tread upon holy ground. In this case the necessity would arise to first eliminate the organs of love and affection from the spiritual anatomy of man's being, and to do so would leave nothing either in this or the next world worth living or dying for. Without going into details, it can scarcely be disputed, that there are quite a number of local, as well as some constitutional diseases, that can be thus communicated from one to the other by contact of the lips. Just think of it, how the poor, helpless and tender baby in the cradle has to submit being kissed by both male and female visitors, as well as servants alike! All this is very wrong, and no doubt productive of much mischief, and in direct violation of good hygiene. But when we approach a pair of lovers, or enter the family circle, then, whatever may be the promptings of strict sanitary science, we must feel that we are stepping upon sacred ground, and that human nature, under the inspiration of those loftier sentiments that are interwoven with man's very existence, will revolt and cry aloud, Beware how you meddle with that which God himself has planted in the human heart, and which is an attribute of Divinity itself—namely, love! As long as lovers meet, and parents love their children, and children love their parents, just so long will there be kissing. So long as rosy and inviting lips are presented by the fair maiden, so long will the ardent lover risk the thousands or millions of microbes that may dwell thereon. But remember the probability that in many instances of the customary kissing, there is a great vicious bloodhound lying hidden, ready to strike his poisonous fangs into the very flesh and bone of the unsuspecting individual, who may afterwards suffer untold wretchedness during the remainder of life, and die a premature death, never knowing what struck him. It is not always apparent on the outside of a person what pain and misery lurk beneath the surface, and which may be com-

municated to others by a kiss. But perhaps it might be considered unfair not to offer any consolation whatever to such as do not agree with us. For that purpose we will read the following newspaper clipping: "A certain German professor promises to be the patron saint of lovers. He has published a paper to prove that kissing is healthful. He admits that there is in the process of osculation oft-times an interchange of microbes. But this very interchange, the professor argues, is good for the digestion. He advises kissing, therefore, as a hygienic principle. It is needless to say that many will find it an easy one to follow." On the same line, not lip touching lip as in kissing, but lip touching precisely the same surface that others touched before, come to our notice the communion cup, the common saloon cup, and the common drinking cup in our public schools. Much ado has been made about the dangers of the communion cup, but comparatively little has been said about the saloon cup, or the common drinking cup in the school room. This strikes us that efforts are being made to convince us that an ant is a greater animal than an elephant.

And now there are some faint and distant glimmerings on the horizon in the direction of France, forshadowing the doom of the art of dancing, all because a somewhat enthusiastic French professor made the most alarming discovery that a saturated infusion of a gentleman's undergarment, after attending a ball, injected into dogs, killed the poor animals in a few hours, thus demonstrating that human sweat must be loaded with the very worst toxic microbes. Therefore it becomes a sanitary measure of the highest importance to stop people from sweating, and the ball room must be closed. And it must be remembered, too, that every gentleman and lady will usually appear in the ball room and assembly building in the most approved sanitary condition as to cleanliness of person and clothing, and yet these rank toxic exuda-

tions from the body. What seems stranger still, were we not afraid of offending the ladies, we would mention that similar experiments by this noted professor show that such exudations from the female prove even more virulent than those from the male, the former killing rabbits and guinea pigs more speedily than the latter.

If we would be more successful in our sanitary efforts, we must leave the laboratory to the scientists as such, and adapt ourselves more to the intelligence and wants of the masses of the people, or to the surroundings of the communities in which we reside. Proper education along this line ought to be instituted in our public schools, and families must be enlightened principally by the family doctor. To be sure, hygiene is professedly taught in our schools, but the text-books used are generally written by text-book writers who are extreme fanatics on the evil effects of alcohol and tobacco, and the whole machinery of this kind of school instruction is made to turn upon these two subjects. The height of the ambition of such instructors is reached, when they succeed in impressing the youthful mind to such an extent, that every boy and girl will imagine that they can plainly see the sun shine through the ragged-edged holes in the stomach of every man that they meet, and who is known to take an eye-opener once in awhile in the shape of some alcoholic beverage. Children having reached this point of enlightenment are now considered ready to receive certificates of graduation in hygiene, although they may be woefully ignorant of the very first principles of practical sanitation.

Caffeina, U. S. P., represents both caffeine and theine. The best form of administration is either *caffeina citrata* or *caffeina citrata effervescens*. Neither of these two preparations is a salt, but simply a mixture. The former should be given in twice the dose of caffeine; the latter in still larger dose.

Original Articles.

Read at the meeting of the Medical Society of the State of Pennsylvania, Lancaster, May 17, 1898.

THERAPEUTIC FASTING IN TYPHOID FEVER.

By ADOLPH KÖNIG, M.D., of Pittsburg.

The influence of tradition on the practice of medicine has ever been great, and many of the fundamental truths brought to light during the last quarter of the nineteenth century were doubtless belated, by reason of the traditional and ultraconservative influences that prevented and hindered scientific investigation. One by one, however, the ancient dogmas not founded on demonstrable facts are crumbling away, and theories are replaced by absolute knowledge.

The subject of diet in typhoid fever is one that has received much attention, but mainly as to the kind of food, and the frequency and amount in which it should be given. Because an individual in health has acquired certain habits in the absorption of food, as to time and amount, it is, or has been taken for granted that the same need exists in time of illness. The same rules were often, however, not adhered to with regard to the ingestion of liquids, for many will remember the tortures to which fever patients were formerly often subjected, by denying them water, when consumed by the thirst of a high temperature. Happily for the sick, the irrationality of this was gradually recognized by the profession, and water is now given to the extent desired by the patient.

In spite of the fact that typhoid fever patients, as a rule, have an abhorrence for food in direct opposition to their craving for water, it is still the general custom to insist on the ingestion of a given amount of nourishment at stated intervals. It is not uncommon to see reports of cases in which definite amounts of milk, or other food, are given every two or three hours day and night. What, it might be asked, would be the result were a healthy person subjected to the same course of feeding?

Is it surprising that one of the main symptoms of typhoid fever may be recognized in a diarrhœa of fermentation?

Common sense principles would indicate that where nature makes no demand for food, none should be given. Nor is common sense only to be depended on, for physiological experiments have proven that hydrochloric acid is absent and digestion arrested in typhoid fever during the time when anorexia is a prominent symptom. Dr. Charles E. Page (*Medical Record*, Feb. 24, 1894), quotes Dr. Anton Gluzinski, of Cracow, as follows: "1. During the whole course of the fever (except in the convalescent stage of typhoid fever) the gastric juice contains no hydrochloric acid. 2. The gastric juice digests neither in the organism—since it contains no peptones—nor outside the organism. 3. With the disappearance of the fever, or somewhat later, the gastric juice becomes capable of digestion, both within and outside the organism."

Not only is the ingestion of food contra-indicated, but in fasting itself an influence for good may be exerted. According to two French investigators, MM. I. Tessier and L. Guinard, also quoted in the *Medical Record*, "the effect of fasting upon the powers of the system to resist infection from microbial toxins, has been investigated, and they find it a strengthening one. Animals which had been kept fasting held out against inoculation much better than control animals, and the resisting power seemed to increase with the length of the fast." It would thus seem that nature's abhorrence of food is a defensive measure in the struggle against disease.

I recognize fully the difficulties in the way of an attempt to carry out any thorough course of fasting during a protracted illness. The feeding treatment is so engrafted upon the popular mind, that fasting is not looked upon with favor, and when it is remembered that a certain percentage of fatal cases will occur under any and all treatments, care and conservatism in advocating new lines

of treatment, must be observed, lest in case of fatal ending, the blame of the friends be visited upon the luckless innovator.

The fasting treatment of typhoid fever is not a new one for a number of physicians, notably Dr. Licorish, of Barbadoes, and Dr. Page, of Boston, have brought it to the attention of the profession, and pointed out its advantages. The early physicians, shrewd observers of nature's efforts in the struggle of the survival of the fittest, recognized the value of, and advocated fasting in their treatment of fevers. To Graves must be referred the change to feeding in fevers, but he counteracted the effect of feeding, at least to a certain extent, by thorough venesection.

With our modern knowledge of the cause of typhoid fever, the value of fasting can be better demonstrated. It is generally conceded that all severe cases represent a mixed infection during the later stages. The ever-present colon bacillus, always ready to attack devitalized tissue, finds a favorable nidus in the necrotic spots of the intestinal canal, and the growth of this and other bacteria of putrefaction must be greatly facilitated under a constant inpouring of suitable culture media, such as are usually ingested. The treatment under which all food is withheld and the antiseptic treatment, in which many physicians place much reliance, are in the same line, for both aim to prevent the activity of the bacteria of putrefaction, and the elaboration of poisonous gases and toxins in the intestinal canal. Neither of them, it might be said, is intended, when scientifically employed, to directly influence the bacillus typhosus, an organism whose life in the human body is limited to a comparatively short time, by the formation of antitoxin in the blood.

The points in favor of fasting may be summarized as follows:

1. To reduce to a minimum the gas and toxin-formation of the putrefactive bacteria.

2. To increase the resisting power of the patient for the bacillus typhosus.

3. To favor the ease and comfort of the patient.

4. To counteract the tendency toward diarrhœa.

5. To prevent as far as possible the third, or stage of mixed infection, of the disease.

ON THE MANAGEMENT OF PATIENTS WITH TYPHOID FEVER.

BY S. SOLIS COHEN, M. D., OF PHILADELPHIA.

The title of this brief communication expresses the principal idea it is intended to enforce. In no other disease is it more important to bear in mind that the true function of the physician is not to attempt to interfere with the normal evolution of recovery, or the processes by which this is brought about, but rather to guide his patient safely through them. Within recent years two series of experiences have impressed upon the profession in America (one from the negative, the other from the positive side), the needed lesson that temperature in itself is not to be feared, and as a symptom is not to be directly combated, save under extreme circumstances. The unfortunate results of treatment by the coal-tar products have practically demonstrated the dangers of mere antipyretic dosing; while, on the other hand, the excellent results obtained by the use of cold water, after the method of Brand and in other ways, have shown that the febrile process expressed by high temperature may readily and safely be controlled within certain limits, to the great increase of the patient's comfort, and with improvement of his chances for recovery.

Although I had the pleasure of advocating the Brand system, and of employing it according to my limited facilities before many of its present advocates had seen fit

to forego the use of antipyretic drugs, I do not hesitate to place myself on record against the extreme views now expressed in its favor. Of all routine methods of treatment, it is the best, but no routine treatment is wholly good. The patient must be taken into consideration; and by this I mean not alone the individual, his temperament and idiosyncrasies, but his surroundings and circumstances, and the manner in which he is reacting against morbid processes, as expressed by all the symptoms of the case. It is the greatest mistake possible for the physician to look upon all the disturbances of function seen in sickness as in themselves morbid, and requiring to be antagonized. Many of them are expressions of the natural tendency toward recovery; just as the swaying of the tight-rope walker to left and right, is not an evidence of ataxia, but of the effort and the ability to preserve his equilibrium. To strike up the arm of the funambulist would cause his fall; and to strike unnecessarily or violently at the temperature, the diarrhoea, the cough of a patient with enteric fever may precipitate him from safety into the grave. The physician, knowing the natural course of the disease, its dangers, its complications, must watch carefully the tendencies exhibited in the individual case, and safeguard his patient accordingly.

Taking for granted that the well-known rules for diet are observed (and as to diet I advise small quantities of the most easily absorbable food — preferably pancreatized milk or expressed beef juice, administered every two or three hours) and that when the hygiene of the sick room is properly cared for, water, and often cold water is the one agent of greatest usefulness in the management of patients suffering with enteric fever. It should be used freely in every case, internally as well as externally. Too often nurses, unless instructed, will wait for the patient to ask before offering him water to drink. Sometimes the patient is too dull to realize even the sensation of thirst. Nurses

should be instructed to give at least a quart of water in the twenty-four hours; boiled water, if there be any doubt of its purity. In many cases systematic sponging with cool or cold water will fulfill all the indications for external hydrotherapy. The sponging must be thoroughly and properly done. Nurses must be specifically and carefully instructed in its details. In cases severe from the outset, or which become severe in spite of treatment, the systematic cold bath should be instituted. The inexpert will do better by following the rigorous method of Brand, than by attempting to modify the method. The experienced will introduce such modifications as each individual case seems to require.

In a ten minutes' paper, and upon a subject so thoroughly discussed, one cannot take up much time in details. Yet I must here note that many nurses fail to prepare the bed properly for the reception of patients after the cold bath, and it is necessary for the physician to give specific instructions to have heated blankets ready; to receive the patient upon a warm sheet, which is to be tucked in, so as to prevent two wetted skin surfaces from coming in contact, and which can be used for drying the patient, and is then to be removed so as to permit him to lie between the two warm blankets. The use of red wine rather than whisky to give the patient before and after the bath is advisable. In some cases the use of aromatic spirit of ammonia answers the purpose. Between the tenth and twelfth days, it is doubtful whether plunging should be begun. After the twelfth day, the inexpert should never begin plunging. Plunging begun earlier should be continued or discontinued, according to circumstances. When plunging is not well borne, as when for any reason it has not been instituted, frequent cold or cool sponging should be carried out. This is partly to reduce temperature, but largely, like the bathing, to promote general metabolism, to stimulate excretion, and to keep up the tone of the peripheral vessels. The

effects on temperature, pulse, respiration, excretions, sleep, and general comfort, must be the guides as to the time, temperature, and other details of the external application of water, whether as plunging or sponging. Too great a fall of temperature after sponge bath or plunge bath is harmful. The pump-handle charts resembling septic fever, shown in some hospital wards where typhoid patients are plunged, are bad charts. They are always too long; they often have unnecessary relapses. A fall of at most one degree Centigrade in temperature is enough for a single bath. Nor should patients be waked every two or three hours to have temperature taken, or to be sponged or bathed. They should be allowed to sleep undisturbed for four or five hours, even when the applications are being made every second hour during wakefulness.

To reduce temperature, should this be thought necessary, and to prevent or control tympanites or hemorrhage, the continuous application of ice to the abdomen—usually over the right iliac fossa—is useful. Sometimes it is advisable to intermit the use of ice, or to alternate the application of ice to the head and abdomen. In cases of severe nervous and cerebral symptoms, or very high temperature, there may be continuous application of ice to both head and abdomen. McCormick has had excellent success with the use of guaiacol externally.

Judicious internal medication is useful. The bowels should be cleansed by enema on admission (unless after the tenth day), after which, according to circumstances, a few small doses or one large dose of mercurous chloride (calomel) should be given. After the "calomel stool," intestinal disinfectants should be employed. As I have said elsewhere, these may not kill Eberth's bacillus, or neutralize its toxins, or chase after it into the spleen or cerebrum; but they do render the patient's intestine a less favorable breeding ground for this organism and its many named and unnamed con-

geners; they do diminish the formation, and hence the absorption of various named and unnamed toxins; they do render the course of the case less severe. I affirm this unhesitatingly as the result of a sufficient clinical study. Laboratory explanations may be found hereafter.

Of drugs of this class, one may use guaiacol or its combinations, of which I prefer the carbonate; phenyl salicylate (salol); betanaphthol, or its benzoyl compound (benzo-naphthol); creosote, or its carbonate (cresotal); carbolic acid and iodine, and the like. I usually employ salol or guaiacol carbonate, in doses of about five grains every second to fourth hour; more recently I have used benzonaphthol in doses of ten or fifteen grains. When diarrhoea is troublesome, bismuth salicylate may be used with the more powerful antiseptic. Beta naphthol-bismuth has been highly recommended. Should constipation be a feature of the case, an enema may be used every forty-eight hours, except during the period when ulceration is at its height, say from the twelfth to the sixteenth day, when the bowel should be let alone.

If, notwithstanding the free use of water, the urine is not excreted in sufficient quantity (that is, if it be less than 30 ounces in a day) some mild diuretic, as solution of ammonium acetate, or sweet spirit of niter, or infusion of buchu, should be given. This is rarely necessary, as the water drunk is usually an efficient diuretic, and the stimulation of the skin likewise assists excretion.

When the tongue is dry, harsh, fissured, covered with brownish fur, turpentine is useful beyond doubt. Sufficient must be given; about 15 drops in emulsion or syrup of acacia, every second or fourth hour. Should any sign of renal irritation develop, turpentine must be abandoned. I have, however, never seen it do harm, and have seen it do good too often to be laughed out of its use. It also serves well in cases of tympanites or hemorrhage. To help restrain hem-

orrhage calcium chloride is sometimes useful.

During the second week strychnine is useful in small doses, say about 1-100 to 1-60 grain every second to sixth hour. During the third week it may be increased to 1-30 grain every third hour, if need be. Alcohol is rarely necessary before the third week, and often unnecessary throughout.

Time will not permit a reference to complications; to say they are to be met on general principles is to repeat what I have stated to be the main thought of this paper. Good judgment in the individual case, the use of measures as simple as possible, will give a low typhoid mortality.

The principal aims of treatment are to give rest, physical and mental; to regulate rather than to interfere with the development of the course of affairs toward recovery; to avert danger of hemorrhage by precautions in diet; to avoid overburdening the digestion, yet to nourish adequately; to keep the bowel clean and reduce sepsis; to maintain the secretions; to keep up the peripheral circulation; to do no useless drugging.

TREATMENT OF HEMORRHAGE IN TYPHOID FEVER.

By H. G. McCORMICK, M.D., OF WILLIAMSPORT.

In the treatment of hemorrhage in typhoid fever, it has long been taught that opium, morphine and acetate of lead were the remedies to be given in such doses as to paralyze the bowel and bind up their contents in such a way that no movements of the bowels could possibly take place. This treatment was advocated on the theory that the opium would paralyze the vaso-motor nerves of the alimentary canal, destroy the peristaltic movement, and put the bowel, as it were, in a splint. The acetate of lead was probably given for the reason (if those who advocated it reasoned) for its astringent effect to bind up what secretions, if any, were acting after the opium had

gotten in its work. This plan of treatment was generally pursued in the treatment of all bowel troubles in which diarrhoea was present, when the medical profession treated symptoms, rather than diseases—when pathology was almost unknown—before bacteriology had been conceived—when the physiological action of drugs was a myth. Yet many of the so-called modern works of practice have kept copying these same antiquated plans of treatment of this class of diseases. It certainly should be more respected for its age than for its logic. Emerson says, "Of no use are the men who study to do exactly as was done before, who can never understand that to-day is a new day."

Opium does control peristaltic action, and acetate of lead does bind up the secretions, but do you want to produce these conditions in a case of hemorrhage in typhoid fever? What conditions are present when a hemorrhage of sufficient amount to require treatment has occurred? The muscles are relaxed; the heart's action is weakened, and the whole body is depressed. Is it likely, when every other muscle and set of muscles have lost their tone, and from want of nourishment have lost their power of contraction, that the muscular fibers of the intestines have not suffered from the same cause? From the explicit instructions given to put the bowel at rest with opium, one would suppose that all the muscular force of the body had suddenly been concentrated in the muscles of the bowel when a hemorrhage occurs in that part of the body. A little thought will convince you that after a hemorrhage the peristaltic action of the bowel is suspended or abolished in proportion to the amount of blood lost and the effect this has produced upon the body as a whole. Is there any necessity for the giving of a drug to overcome a condition which does not exist? In addition to opium not being of any use, it does positive harm. It dries up every secretion of the alimentary canal, from the mouth to

the anus. The secretion from the liver which is necessary to carry on the process of digestion, and which furnishes to the bowel the best antiseptic, is suppressed, the secretions from the whole glandular system along the route have been dried up, and you must, of necessity, have decomposition of the contents of the bowel—forming gas and poisonous products, which are absorbed into the system, adding to the already serious trouble new complications to combat.

Typanites is never a favorable symptom in typhoid fever, and this is especially true in cases where hemorrhages have occurred. The hemorrhage was caused by the rupture of a blood vessel in an ulcer of one of Peyer's glands. Will you not add to the probability of another hemorrhage by distending that bowel with gas, and if the ulceration has any depth, will you not further add to the danger of the case by putting sufficient pressure on the bowel to cause a perforation and a death?

After a hemorrhage has taken place the blood, as a rule, is not all expelled, and part remains in the colon or at the ileo-cæcal valve. Blood is a fruitful soil for the development of bacterial growth, and is allowed to remain adds in the further development of the poison. Do you think any harm will come to the patient by these clots being washed out? Instead of giving opium or any other drug to bind up the bowels and secretions, I have been in the habit for the past few years of following an entirely opposite course. I give something to move the bowels, generally a saline laxative, and wash out the colon with ice water. By this plan I clear out the alimentary canal, carry off the clots of blood, and whatever other substance there may be—relax all tension upon the bowel, and I have not had much secondary hemorrhage to contend with.

The bowels should always be kept open in typhoid fever. In a discussion of this subject at the last meeting of the American Medical Association, a very prominent physician made the statement on the floor that

constipation in typhoid fever was a good thing, and that cases with constipation did better than those with diarrhœa. Now I have had a fairly wide experience, yet I have never come across any disease in which constipation was a good condition, and in conversation with a number of physicians who have seen disease in about all of its forms and names, not one of them has been able to give me the name of a single disease in which they were willing to say that constipation was a condition to be sought. I have gone to some trouble to consult the works on practice that I have been able to secure, and yet I have not found a single disease in which the author was willing to say that constipation was the end to be secured in order that a cure might be effected. That there are mild cases of typhoid fever with constipation any physician who has seen much of this disease will be ready to admit. But are they mild because they have constipation? Is this the cause for their not being severe? Is it not rather a fact that, being mild, there is not a sufficient amount of pathological change taking place in the bowel to cause a diarrhœa, and would not these cases be more mild by the bowels being kept open? Are hardened feces a good application to an inflamed and ulcerated bowel? Is there a physician who has a wild enough imagination to make himself believe that hardened feces are a "God-send" to an inflamed and ulcerated bowel? When will the teaching of such nonsense as this cease?

By the method I have suggested the bowel is kept clean—clean as it can be by the means at our command; the bowel and ulcer are relaxed; no undue pressure is placed upon it; the bowel is at rest, for the hemorrhage has produced this effect, and the patient is given a fair chance to recover.

DISCUSSION.

Discussion on the papers of Drs. Kœnig, Cohen and McCormick.

Dr. H. A. Hare, Philadelphia:—I have listened with great interest to these papers. I believe

many practitioners make a great mistake in limiting the diet of many patients with typhoid fever to milk. A recent experience of my own convinces me of this, in addition to my hospital experience. I am convinced that in these exhausting diseases, which run a course of many days and weeks, it is our business to see to it that our patients not only get milk, but that they also get soft-boiled eggs, and even such things as thoroughly cooked rice, toast, and similar substances, which are easily digested, and which do not form hard lumps. I do not agree with the advice given by one of the speakers that beef juice should be employed. I do not mean to say that no patient with typhoid fever should be given meat juice; but I think it has been proven beyond all doubt that broths and beef juice form very excellent media, culture media, for the bacillus of Eberth.

The second point of which I wish to speak, is in regard to the cold bath in the treatment of typhoid fever. Dr. Holder, one of the assistants to my chair in Jefferson College, and myself have been studying the therapeutic effect of the cold bath, with a view of obtaining a relative idea of its practical value. We found that it was exceedingly useful in many cases, and that it did undoubtedly reduce the mortality of this disease; but that it was a mistake to employ it as a routine method of treatment, as is advocated by some physicians, more particularly in Europe. I think the value of the bath is not in the reduction of temperature, but in that it produces a reaction, and this is a point which many practitioners absolutely ignore. The whole object of the application of cold in typhoid fever is to produce a rebound with increased oxygenation. Anybody who applies any form of ice, or cold sponging, or cold bath, who does not see to it that it is followed by proper stimulation and proper friction, and that a reaction is produced, is guilty of malpractice. I cannot help but think that Dr. McCormick advocates a rather heroic method. I do not think it is our duty to follow the lead of any enthusiast in one plan of treatment. I think there is a glimmer of light in both methods. I think if we absolutely ignore opium and acetate of lead and astringents in the treatment of typhoid fever, we will be making a mistake. I think we also make a mistake if we inject ice water into the rectum of a patient suffering with intestinal hemorrhage. My experience is that hot water, if water injections are necessary at all, is far preferable to the cold water injections. There is one remedy in these cases which I think deserves more attention, and that is camphor. I think this a most useful agent and a very diffusible stimulant in asthenic diseases

such as typhoid fever—about a grain of camphor, hypodermically. It does not have the rapid effect of strychnine—but it is more staying; and I have seen its employment cause the rally of a patient almost at the point of death.

Dr. G. W. Hiatt, Pittsburg:—I desire to compliment the writers of the papers to which we have just listened. Dr. Koenig brought out very well the disadvantages of stuffing in typhoid fever. He developed that subject well. I am pleased to have the opportunity of complimenting Dr. Cohen on his very able paper, and I was pleased when I heard him place a board fence around the coal tar preparations. The theory is so entertaining and bewitching—this antiseptic treatment—that many doctors go far beyond the bounds of good sense and judgment in their use of these remedies; and I believe that a good many people have been killed by the misuse of these drugs. I also compliment Dr. McCormick on his paper, which contains sound scientific sense—much that we can tie to. I am opposed to constipation in both health and disease, and I deplore the fact that there are still many doctors who trust to constipation and heaven to cure their cases of typhoid fever.

Dr. Judson Daland, Philadelphia:—I was especially interested in the remarks of Dr. Koenig as to the feeding of patients with typhoid fever, and I regret that he did not enter more fully into the question. So far as I could judge from the extent of his paper, it lay chiefly in the avoidance of all food. I do not think, however, he meant that absolutely no food was to be given. I wish to narrate a case which has a bearing on this subject, and in which food was given. The patient was a girl about eighteen years of age, suffering with an ordinary attack of typhoid fever. This patient was taking milk at intervals of about two hours, when the parents, without the knowledge of the attending physician, substituted beef tea in the place of milk. The symptoms suddenly grew worse and the patient died. The autopsy was made on the following day, and the most careful search failed to discover any cause for death. After careful consideration of the facts in the case, we came to the conclusion that the patient died of starvation, the result of the substitution of the beef tea for the milk. I think this case illustrates two points very well. In the first place, it exhibits the inefficiency of the beef preparation as a true nutrient; and in the second place, although the stuffing process is detrimental to patients, yet we must administer a certain amount of food, and I consider milk, preferably peptonized, as referred to by one of the speakers, as the best food to give. If the patient is awake, an interval of two hours is sufficient and proper. I

am firmly convinced that one of the chief reasons why over-feeding is dangerous to typhoid fever patients is because of the resultant and self-intoxication which takes place—decomposition, fermentation, and, in fact, I think most cases of typhoid fever that we see are cases of typhoid fever complicated by these conditions, and this observation has been confirmed by the presence in the urine of indicanuria and acetonuria in these cases. I was very much interested in the remarks made by Dr. McCormick with reference to the treatment of intestinal hemorrhage. However, I am inclined to differ with him on one point, and that is as regards hard fecal masses crushing against the ulcerations in Peyer's patches. So far as my observation goes, the stools in typhoid fever are nearly always fluid and only become consistent after passing through the ileo-cæcal valve.

Dr. H. S. McConnel, New Brighton:—I heartily agree with Dr. Koenig's paper in the treatment of typhoid fever. I believe in giving absolutely no food unless the patient is hungry and demands it. I believe in giving hot water every hour. I recollect the case of a girl 20 years of age, who had absolutely no nourishment for 17 days; the temperature was 102 most of the time, occasionally rising to 104 to 105. In this case organic heart disease was also present. She received absolutely no nourishment for 17 days—not a thing—and that lady made an excellent recovery. If she had been fed she would have died. In treating typhoid fever patients I do not give food unless the appetite calls for it. Dr. Hare, in his remarks, speaks of beef juice being a good culture media; I think his milk and eggs afford just as good a culture media as beef tea. If we feed patients with typhoid fever when the digestive fluids are not being secreted at all, trouble is sure to result. The administration of nourishment in typhoid fever patients should be based largely upon the weight of the patient, the degree of temperature, and the appetite, and I think, as I have said elsewhere, there is more harm done in typhoid fever by the improper administration of food than there is by the temperature. It was only a few years since we gave food freely in cholera infantum, but to-day the best teachers on this subject stop food for about 48 hours and give nothing but hot water.

Now as regards the advice of Dr. Cohen that in typhoid fever, as well as pneumonia, you must treat the patient from an individual standpoint. That is all right for the physician of experience, but I should imagine it very bad for the beginner. The physician should have an ideal treatment for every disease. If he does not have an

ideal, and does not treat his patient with some definite system, how will he know what his drugs are doing—how will he know what is good, and what is bad? So far as intestinal hemorrhage is concerned, there are two kinds, one from the capillary vessels, and another where a large vessel is severed, and of course these latter cases die.

Dr. H. G. McCormick, Williamsport:—There is one point I wish to speak about before the discussion closes, and that is the statement by Dr. Daland that the hard feces would not hurt the bowel because the ulceration was above the ileo-cæcal valve. I think in one-third of typhoid fever cases there is ulceration at the colon, so in one-third of the cases, even if his statement is true, hard feces will result in harm.

Dr. Adolph Koenig, Pittsburg:—Replying to Dr. Hare I would say that it was not my idea, not the idea I intended to convey, to absolutely prohibit food in all cases, but that a patient's desires should be largely taken as a guide. I believe, as Dr. McConnel has stated, that when there is a manifestation of hunger, then food should be given. I have seen, and I have no doubt that a large majority of the members present to-day have seen, deaths result from the improper administration of food during the latter period of typhoid fever, when shortsighted friends have given it, and the turn for the worse would at once take place. I would hesitate—I would not have the courage—to give any of my typhoid fever patients solid food before the temperature had become absolutely normal, all fever entirely disappeared. Of course, it is impossible to lay down hard and fast rules for the administration of food in these cases, and every one must be its own guide, and not only the individual must be taken into consideration but the friends of the patient also, especially by a younger member of the profession, because, should death take place, he would surely be blamed by many persons, if they knew food had not been given; although, of course, we know that death will sometimes take place in spite of any plan of treatment. The case referred to by Dr. Daland where beef tea was substituted for milk, would, to my mind, have died just the same had she received the milk, provided she had decided anorexia and other evidences of arrest of the function of digestion.

Dr. Cohen:—I should like to correct a slight misapprehension. I did not say beef broth, I said expressed beef juice, which is a very different thing. It is made in the house by expression of the juice of a thick piece of the round of beef, which has been browned slightly on each side. I know from experience, not only with patients, but in my own household, where, unfortunately,

I had a case to deal with, and which I could watch closely, that beef juice is good for some cases. Referring to what Dr. Koenig has said, every case must be judged by itself. And also, as a matter of course, as Dr. McConnell has stated, we must have general rules for guidance in the treatment of certain classes of cases; but I do not think they should be hard, fast rules. Because one patient may do well on large quantities of milk, there is no reason why we should persist in giving large quantities of milk to another patient who may be killed by this treatment. As a general rule, the diet I advise in typhoid fever is a moderate diet, neither starvation nor stuffing, and consisting of food that is easily assimilable; if possible, and the patient can take it, predigested. In regulating the diet, all the symptoms of the individual patient should be taken into consideration. The state of the tongue, presence or absence of abdominal pain, of diarrhoea, or constipation, of tympanitis, etc., aid us to determine whether or not the patient is digesting his food, and whether to continue or modify the diet prescribed. So far as the milk is concerned the best form in the majority of cases which I have treated is pancreatized milk rather than peptonized milk; that is, milk to which pancreatin and sodium bicarbonate dissolved in water have been added just before the patient takes it. We thus avoid the unpleasant taste of milk in which the peptonizing change has begun. The administration of alcohol early in typhoid fever is a mistake. About the third week alcohol may sometimes be used as a food. It is valuable if used properly. I agree fully with what Dr. Hare has said in regard to the use of camphor in asthenic states, and also find that the best method of giving it is in olive oil. I consider, however, that strychnine has better staying qualities. In this, my experience seems just the opposite of Dr. Hare's. Camphor has seemed to me to give the quickest, and strychnine the most prolonged effect. That is either a difference of observation, or a difference of interpretation of the same conditions. All of these drugs, however, are susceptible of abuse. None should be used unnecessarily or persisted in unduly, and in this we once more come to good judgment in the individual cases.

Dr. Judson Daland, Philadelphia:—With reference to the case which I quoted a few moments ago, of the girl, who, I believe, died from starvation, I would state that she had no appetite whatever, but as she liked the flavor of the beef tea better than the milk, her friends gave it to her and she took it willingly. At the autopsy we made a very careful examination of all the organs and I never saw any more healthy. All the tis-

sues were typically normal, and I am convinced that if beef tea had not been substituted for the milk, the girl would be alive to-day.

OPIATES IN BRONCHITIS.

BY W. T. ENGLISH, A.M., M.D., OF PITTSBURG.

Ever since bronchitis was recognized as a morbid entity, each medical man has been disposed to have his favorite compounds for its cure. Treatment has oscillated from one method to another and back again since the days of Lænnec. From the irregular exhibition of infinitesimal doses of the uncertain codeine—in hope of the homœopathic calm it seldom gives—and the depressing antimonial nauseants—because of their capacity to exaggerate discomfort—the patient is kept in a quandary as to which is the more to be feared, the treatment or the disease.

The suggestion of opiates as remedial agents in bronchitis, is not in itself new. It is their employment under certain conditions in large doses to which the writer invites criticism.

It is fair to premise discussion by the statement that from the more or less heroic treatment here suggested extremes of age, all known idiosyncracies, heart maladies, renal disorders, tuberculosis, infectious and asthenic types were excluded.

Two hundred and three cases thus selected and treated by the writer during 1895 and 1896 have warranted the anticipation of the following therapeutic results:

- 1st. Reduction of irritation, congestion or inflammatory activity.
- 2d. Alteration in the character and limitation of the amount of the secretion.
- 3d. Increase of general comfort by relief of pain, soreness and removal of cough and incidental insomnia.
- 4th. Speedy and permanent cure of 80 per cent. of the cases.

The application of the opiates has been observed to yield best results when administered at bedtime. The popular dosage

combined 1-3 grain of sulphate of morphine and 5 grains of Dover's powder. This was followed in the morning by one ounce of spiritus frumenti, to prevent excessive nausea, that is liable to appear. All stages of uncomplicated bronchitis have been admitted to the treatment, except that of capillary invasion, which is rather the evidence or premonition of asthemia, and should, by the rules already suggested, be exempted. The good results have ranged from the abortive influence exercised in the incipient stages to the speedy calming of impending asphyxia. Contrary to expectation, opiates in large doses gave minimum results, where cough was the principal sign, and their maximum efficiency was evidenced where the auscultatory phenomena were distinct and of bilateral manifestation. It is certain that, whatever the character of the signs in the most marked form of uncomplicated bronchitis, opiates do not show their greatest therapeutic value where auscultation is negative, or nearly so. In sthenic cases, as in strong men, the freedom of opiates may be admitted, but even in the less robust, and especially in wiry women of slight but wholesome build, the large doses are to be commended.

While it is admitted that the first dose of opiates did not in all cases relieve the cough, dyspnoea and auscultatory signs, the persistence of the symptoms prompted a repetition at intervals of two to six days, with ultimate good results in nearly every case.

Remembering the pathological changes as they occur in the various forms and stages of bronchitis from its incipency, we have not far to seek for an explanation of the good influence of these large doses. In its earliest expression by irritation opiates are the remedies almost universally extolled in bronchitis. Charbonneau insists that "a full dose of Dover's powder will frequently abort an attack." Osler recommends that "opium should be freely used, in the form of Dover's powder. No remedy can take

its place." The decongestive influence of expectorants is supplied by opiates in large doses, and the hyperemia is relieved in the bronchial tubes as well as the peri-bronchial tissues. The cases to which these remedies are especially applicable are those of active hyperemia, due to excessive activity of the circulation; but even in passive congestion they are logically applicable according to authorities, such as Potter, who ably shows that opium is an equalizer of the circulation. The calming influence of opiates upon the capillary vessels in the respiratory apparatus lowers the vascular fullness within the chest, with diminution of intra-thoracic pressure. Thus, making in the lung room for the introduction of air, it favors hæmatisis, and in extreme cases will obviate the possibility of true asphyxia. Add to this the supporting influence opiates have long been known to exercise upon the heart muscle, and we have conditions that suggest their employment in more advanced stages of bronchial inflammation. This fact has been observed by Romberg, and prompted him to say, "Morphine, even in large doses, is an excellent remedy in suffocative bronchitis." Ferrand recommends calming medication in all forms of bronchitis, and in neural types, with threatening suffocative paroxysms, gives the preference for laudanum.

As nauseant and expectorant, the action of a full dose of an opiate has been demonstrated to most of us. Dover's powder will render hitherto tenacious sputum more mucous, but if combined with morphine, will render the extremely mucous sputum less so. The depressing antimonial nauseants are incapable of the repulsive action secured and maintained by large doses of opiates. This potency is made more efficient by their calming influence in congestive erythism, common in cases characterized by neural loss of tone. No other remedies can do so much to modify or change the pathological conditions in bronchitis, whether manifested through the cir-

culation, the intimate nutrition, or neurosal depletion. Moreover, by the use of large doses, general nutrition is protected against the ills that accompany the continuous and oft-repeated exhibition of small doses. Appetite is not so long withheld, and the general health experiences but a brief departure from the normal. The danger of interference with the needful excitability of the respiratory center is more likely to follow repeated and increasing doses than the more heroic method here suggested.

It has been argued that small doses long continued, and necessarily increased, favor the formation of the opium habit. By large doses there is more probability of disgust than infatuation, and yet the same net amount may be administered.

Even where all these advantages are not realized, and cure may not be achieved, it is worthy of note that large doses of opiates give speedy and grateful relief, diminish risk, and give time for the employment of other agents.

OBSERVATIONS IN PURULENT PLEURISY.

BY WESLEY C. STICK, M.D., OF GLENVILLE.

It is remarkable that large collections of pus, and the formation of the same in the pleural cavity, sometimes give rise to very few symptoms.

A little child eleven months old was taken with vomiting, diarrhoea, and fever, at a picnic, on a hot evening in the month of August. Several days afterwards the child was troubled with a slight cough, which entirely disappeared in about ten days. For ten weeks before the case came under my care, there was an entire absence of cough, and the only trouble the little patient was supposed to have was the diarrhoea, with the accompanying wasting—indeed the child was merely a living skeleton. But for the habit of making an examination of the different regions of the body, I would

never have thought of an empyema; yet two days afterwards more than one pint of pus was removed by free incision. Two short drainage tubes were inserted, each one stitched to the skin with two sutures. At the removal of one of the dressings, one week afterwards, one of the drainage tubes had disappeared. The child rapidly grew worse, the temperature rising at times to 104° F.

The parents reluctantly consented to the operation of resecting a rib. A piece of rib was removed, and the lost drainage tube found in the nearly obliterated pleural cavity. Cod liver oil and iron were administered; the bowels irrigated daily with water containing small quantities of tannin; the chest was thickly covered with sterilized cheese cloth. Under this treatment the little skeleton slowly gained flesh, and finally made an excellent recovery.

Aside from this case presenting no subjective symptoms of pleurisy, it is of interest in demonstrating the possibility of rib resection in children under one year of age, under the most unpromising conditions.

It is also probable that through ulcers in the bowels the infection found entrance into the lymph channels, and through them was carried into the pleural sac.

Several years ago, a gentleman aged 55 years, came under my care, on the 23d of February, with a febrile movement ranging from 101° to 103° F., through a period of sickness of twenty-five days' duration. At the outstart of his attack, he had severe pain in his left side (which gradually subsided), increased frequency of respiration, and loss of mobility. The affected side was one and one-fourth inches larger. There was absence of tactile fremitus. On auscultation, the breathing was tubular and distant. To verify the diagnosis of purulent pleurisy, a hypodermic needle was pushed into the chest cavity at four different points, without finding pus. Yet three days afterwards, during a paroxysm of coughing, the abscess opened into a bronchial tube, the

lungs were filled with pus, and in a few minutes the patient was a corpse.

Possibly the following case of serous pleurisy may be of interest in these cases of negative puncture: Male, white, 62 years; weight of body 263 lbs.; commenced with a chill; acute lancinating pain in right side; temperature ranging around 103° F.; a moist cough.

On percussion, complete flatness over the anterior part of chest was evidenced; laterally and posteriorly the dullness was of a different nature; there was some resonance mixed with the dullness. Posteriorly bronchial breathing was very marked, bronchophony with the loud and whispered voice as plainly audible as I ever heard it in a case of pneumonia; vocal fremitus increased. Upon these physical signs, together with the clinical history of the case, the diagnosis of pneumonia was made. However, the flatness and absence of vocal fremitus on this anterior part of the chest were not plain to me. I never heard or read concerning the changes, if any which are noticeable upon physical exploration of the chest whereon there is so much fat as was the case with my patient.

At the end of ten days the patient died. At the post-mortem I pumped out, with a bulb syringe, an ordinary wooden bucketful of serous fluid from the right pleural cavity. Posteriorly and laterally were old adhesions, covering a space six by eight inches, and binding the lungs and chest wall closely together, thus accounting for the pronounced vocal fremitus, bronchial breathing, bronchophony. Since that time the importance of old adhesions are always borne in mind.

In consultation with Dr. Wentz, in the case of a little girl, aged about six years, at the end of about four weeks' sickness, we found dullness on affected side, considerable vocal fremitus over entire chest, less marked than on the healthy side; vesicular breathing not very distinct; in the upper part of the chest posteriorly, bronchial breathing. We thought we had a case of

sero-fibrous pleurisy, with considerable fibrous deposit, and consequent thickening of the pleura. Nevertheless we introduced a hypodermic needle below the angle of the scapula of the affected side, and found pus. On the operating table, immediately afterwards, we made three negative punctures. Upon inserting our needle at the seat of the exploratory puncture, we again found pus. An incision was made at this point, a piece of rib resected, and the pus cavity, which contained about one pint of pus, opened. It was an interlobular empyema, the apex of the cavity pointing toward the sternal end of the clavicle. The lungs were firmly adherent to the walls of the chest around a spot about two inches in diameter where the pus sac was adherent. Fortunately for our patient, the exploratory puncture accidentally hit that spot. We also removed about one-half teacupful of fibrinous deposit from the walls of the abscess cavity, which was slightly adherent, and easily detached by the finger, a small strip of gauze was kept between the lips of the incision for about two weeks, and in about one month's time the patient was well.

Two of my cases recovered, in one of which two I aspirated three times; in the other once. These recoveries were brought about by the pus-collection breaking into the bronchial tubes. Possibly many cases reported cured by aspiration would be found to have pursued the same course, if the subsequent histories had been followed to complete recovery.

In a little girl aged seven years, 48 hours after the onset of the disease, dyspnoea became alarming; one side of the chest was filled with fluid to the clavicle. Removing the fluid by aspiration, the little sufferer was greatly relieved. At this stage of the disease, large numbers of leucocytes were in the fluid. Two weeks afterwards, one pint of pus was removed by aspiration.

This operation was performed three times. After each aspiration the temperature fell to nearly normal, but as pus re-

accumulated, the temperature again rose, and we concluded to make a free incision. After the pleural cavity was opened, to my surprise a reddish serum came from the incision, to the amount of about a quart. The patient had taken no anæsthetic, was in the sitting position, and syncope was threatening. We laid her upon her back, and controlled the flow from the wound by pressure. A short time after this we made another incision higher up, and opened an offensive pus cavity. In this case there unquestionably existed a serous and a purulent collection at the same time and upon the same side.

It seems to me these cases illustrate:

1. The great importance which adhesions play in the diagnosis of purulent pleurisy and on which the text-books in the main are silent.

2. That suppurative pleurisy will be frequently overlooked if we put too much weight upon the evidence afforded by auscultation and percussion, particularly in the case of children.

3. That purulent and serous pleurisy may exist upon the same side, at the same time.

4. That rib resection will enable us to dispense with drainage tubes, break up septa, and will enable us to remove fibrinous deposits, which, according to some observers, form the starting point of subsequent tuberculosis.

THE NATURAL AGENCIES CONCERNED IN THE PURIFICATION OF POLLUTED WATERS.

BY D. H. BERGEY, M.D., OF PHILADELPHIA.

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The natural processes concerned in the purification of polluted streams are of very great importance, because upon these depends the influence upon health which such polluted water can exert, and also the length

of time during which such water may continue to be detrimental to health. We know from observation that water that has become polluted will in time again purify itself. The content in organic matter, ammonia and bacteria, becomes reduced, when not again polluted, as the stream moves along in its course. The factors which are concerned in this purification are the following:

1. Sedimentation. The suspended particles, both organic and inorganic, sink to the bottom, and thus become eliminated from the water.

2. Dilution. The entrance of pure water from the tributaries and from ground water dilutes the water, and thus reduces the degree of pollution.

3. Oxidation. In consequence of the movement of the current the water becomes aerified, and comes in contact with fresh portions of oxygen, and this oxidizes the organic matter. Sunlight accelerates the oxidation of the organic matter, and kills off some of the bacteria.

4. Precipitation. During the course of the stream certain insoluble inorganic compounds (as sulphur compounds) can be formed and precipitated, or humus substances can be precipitated through the action of clay, aluminium sulphate and hydroxide.

5. Water plants of different forms (as algæ) and infusoria digest dissolved, and, at times, undissolved organic substances, and therefore purify the water from these substances.

6. The microorganisms convert the organic matter over into simple inorganic compounds, and purify the water in this manner.

Sedimentation takes place in all flowing waters in varying degree, according to the rapidity of the current. It takes place most rapidly in slowly-flowing water, and more rapidly along the banks than in the middle of the stream. This form of purification is, of course, so evident that it cannot well be

disputed. The degree of purification by means of this factor is, however, a point which has given rise to considerable controversy. Many even hold that this sedimentation plays the principal part in the self-purification of waters. Among these is Dr. Percy Frankland. It is probably the most important factor in slowly-flowing waters, or in quiescent water.

In March, 1896, during the time of the spring freshets, one of the sections of the East Park reservoir was filled with muddy water. Samples of water were collected from this section of the reservoir daily for the next nine days, with the idea of ascertaining the degree of purification taking place through the action of sedimentation. While the amount of purification noticeable during this ten-day period is comparatively small, yet there are several interesting facts to be noted in the results obtained. (See Table I.)

TABLE I.

WATER FROM THE EAST PARK RESERVOIR, SOUTH SECTION.

No. of samples.	Date when collected.	No. of Bacteria per cc.	Parts per Million			
			Total solids.	Oxidizable organic matter.	Free HN_3	Alb. NH_3
1	Mch. 6	3 340	201.00	2.696	0.074	0.1322
2	7	2,127	152.00	3.088	0.084	0.230
3	8	436	131.00	2.745	0.08875	0.251
4	9	525	136.00	2.941	0.1000	0.3025
5	10	490	150.00	2.349	0.09375	0.2568
6	11	440	147.00	2.647	0.0981	0.2537
7	12	403	146.00	3.0060	Lost	Lost
8	13	412	140.00	3.0434	0.1043	0.2287
9	14	427	137.00	2.318	0.1356	0.1850

(Note: Distillates of free and alb. ammonia show plainly the presence of urea in each sample of the water. Waters contain less sediment, but are still opaque.) For instance, the number of bacteria diminished from 3340 to 427 per cubic centimetre. The total solids diminished from 201 parts to 137 parts per million. This indicates that probably the bacteria were carried down with the other solid matters in the water. There is practically no diminution in the oxidizable organic matter. The results for free and albuminoid ammonia denote that there were other factors in operation tending

to purify the water, aside from that of sedimentation. There was an increase of free ammonia from 0.074 parts to 0.1356 parts per million, and a diminution in albuminoid ammonia from 0.322 parts to 0.185 parts per million. Undoubtedly this change in organic matter, as indicated by the free and albuminoid ammonia, is traceable to the action of the nitrifying bacteria, and not to the mere fact of sedimentation.

The action of dilution is, of course, quite evident, and is dependent upon the number and size of the tributaries entering the stream and the relative purity of the water which they contain; if they are of considerable size and relatively numerous, they dilute the polluted water to such an extent as to render it distinctly less polluted.

The oxidation of organic matters is constantly going on, through the action of the oxygen of the air contained in the water. The greater the amount of churning of the water, as brought about by numerous small falls and breaks in the current, the greater will be the admixture of the air with the water, and consequently it will favor the oxidizing process. When the water is flowing slowly, with little opportunity for admixture of air, the oxidizing process is less important, because it will act less rapidly, and the oxygen of the air contained in the water will be more speedily exhausted.

Precipitation of the organic and inorganic particles in the water is influenced altogether by the admixture of waters of different characters, entering from the tributaries, with the water of the stream. Ground waters containing humus substances will also undergo precipitation through the action of clay and the alum salts contained in the water.

The factors which have been considered under the foregoing headings are of less importance really than those which remain to be considered. They are the factors which are common to all waters, and are dependent upon various conditions, according to circumstances.

The vital processes concerned in the purification of polluted waters are principally of two forms: First, the chlorophyll-bearing water organisms and infusoria which are capable of acting only, or principally at least, in the presence of sunlight; and, second, those microorganisms which are able to convert organic matter over into simple inorganic compounds which are active, principally, in the absence of light, or in feeble light as obtained in turbid, polluted waters.

As concerning the action of water-plants of higher order, it may be said that these grow profusely in waters in which they are able to obtain a foothold, because the larger proportion of them are not free-swimming organisms. The nature of the bottom of the stream will influence the facility of growth of this form of vegetation. A gravelly bottom, the component particles of which are constantly moving, forms an unfavorable soil for their growth; while larger pebbles and stones, rocks and the like, are favorable for their development. On such bottoms they are able to develop luxuriantly, and here they play an important part in the purification of waters. They also lodge largely along the banks of streams where they find, as a rule, favorable sites for lodgment. In growing they take a very large portion of their nourishment from the water and, undoubtedly, suck up in this manner dissolved organic substances. This fact seems to be substantiated through the investigations of Bassler, Laurent, and others. If this be true, as we have reason to believe it to be, then these water-plants purify the water. For many streams this factor may have but very little influence on account of the nature of the bottom of the stream. For the purification of many others, however, it is without question a very important factor.

Löw (*Arch. fur Hygiene*, Bd. XII., p. 259) has sought to demonstrate that the principal portion of the self-purification of streams is brought about by vegetable organisms of low order, namely, algæ, especially the *uglena viridis* and all thread-algæ.

He demonstrated that mineral substances were easily dissolved and retained by these organisms—this fact having long been known. He also states that they can take up dissolved organic matter, from which he assumes that they can also take up the dissolved putrefaction products from the river water into their bodies and there change them, and in this manner purify the water.

M. von Pettenkofer (*Arch. fur Hygiene*, Bd. XII., p. 267) coincides with the opinion of Löw, and has demonstrated in an especial manner the same facts, in his investigation of the river Isar at Munich. According to von Pettenkofer, the self-purification of streams is in large part the result of the vegetable life in them, the same as the purification of manured land. He states that there is now no doubt that the algæ, like the water-plants of higher order, possess purifying powers, and that they take up organic substances and change them.

The question has also been investigated to some extent by the Massachusetts State Board of Health, more especially with regard to the Blackstone River, an account of which is published in their Report for 1890. They found that the water, in passing from Worcester to Millville, loses rather more than one-half of its nitrogen, and that the remaining portion is comparatively stable; that there is a loss of one-quarter of the free ammonia caused partially by the oxidation of its components into nitric acid and water. But the striking fact was noted that after a flow of 23 miles three-quarters of the free ammonia remains unchanged, notwithstanding the long time required for the water to pass this distance owing to its slow movement through the mill-ponds, and the aeration which it receives at the dams. They state that in the Blackstone River the absolute quantity of ammonia which disappears is large, but that the proportionate quantity is small; that the acid substances turned into the river from the iron works at Worcester prevent the rapid oxidation of the ammonia,

and the great amount to be oxidized may also be an important factor.

The Merrimac River was found to furnish the best example of high dilution of sewage; for, notwithstanding the great population which discharges sewage into it at Concord, Manchester and Nashua, N. H., and at Lowell, Lawrence and Haverhill, Mass., it was not very bad at any place, from a chemical standpoint. Most of the constituents increased in quantity with a fair degree of regularity, from place to place, going down the stream. Two of the constituents, namely, the free ammonia and albuminoid ammonia in suspension, were exceptions to this rule, in that their increase was not regular, and, in some instances, there was a noticeable decrease. They state that "it might be that the loss of free ammonia was caused by the aeration of the water during its passage over these falls; but this cannot be the case, because a similar loss occurs at Lawrence, where there is no fall in the river below the point where the sewage enters it. The amount of free ammonia remaining in the water just below the cities is, as above indicated, very small, but increases to a marked extent as the water flows more sluggishly to points further down stream. This feature is noticeable in the average analyses, but is more strikingly illustrated by a special examination, where the free ammonia is but .0004 below Lowell and increases to .0043 before reaching Lawrence. This increase does not represent free ammonia which was contained as such in the sewage, although it may have its origin in decomposing organic matter discharged into the river in the sewage and manufacturing wastes."

A somewhat remarkable example of rapid conversion of the nitrogen compounds found in the polluted water into other forms of nitrogen was found at Framingham, where the water of the under-drain of the sewage system enters and mingles with the Beaver Dam Brook. Analysis of a sample collected 300 feet below the entrance

of the stream from the under-drain showed very nearly the result which might be expected from mixing the waters. At points further down the stream they noted a gradual reduction in chlorine, owing to dilution. One mile from the under-drain all the free ammonia added had disappeared, while there was a slight increase in the albuminoid ammonia. This change was traced to the action of reddish-brown flocks of growth of crenothrix. At the mouth of the brook, a mile below the point of entrance of the under-drain, the nitrates were found to have been reduced from .2000 to .0200 parts per 100,000. This reduction was traced to enormous growths of anebæna, synedra and zoospores, together with many other organisms in smaller numbers. They conclude as follows: "It will be seen from the foregoing that, in flowing from the outlet of the under-drain to the lake, the nitrogen compounds are radically transformed by organic growths, and it seems reasonable to conclude that this means the destruction of substances undergoing decomposition which were contained in the water of the under-drain. We may, therefore, from a health standpoint, class this as an instance of self-purification of streams, even though the water is temporarily rendered obnoxious by the organisms which have effected the change."

It is probable, however, that the algae and other water plants do not play the most important role in the self-purification of streams. Undoubtedly, the bacteria play a more important part in the process of purification. Aside from these, certain infusoria constantly found in the streams also play an important part in the purification, in that they digest organic substances, and in this manner help to purify the water from these substances.

A great deal of experimental research work has been done upon the action of bacteria in the purification of polluted waters. Among the European investigators of this subject is J. Ufflemann, who reports (*Ber*

linen Klinische Wochenschrift, Jahr. 29, p. 423, 1892), based upon examinations of the water of the Warnow, made in the Hygienic Institute of Rostock, that a water containing bacteria, with algæ and infusoria, becomes poorer in inorganic matter and richer in nitrates; but if sterilized water is set down undisturbed, and one takes care that no germs gain entrance, the content of organic matter and ammonia is not diminished. This is a fact so often demonstrated by experiment that one can no longer doubt it. From this, however, must be inferred that bacteria are necessary to change the organic matter in the water and bring about the oxidation of ammonia. Ufflemann states that "the power of self-purification of streams exists, but it is a circumscribed one and quite variable, and becomes paralyzed in more or less cultivated districts, and from the fact that numerous small streams enter with fresh polluted matter, when there is no law to prevent it. One dare not overestimate the self-purification power of our streams, nor place too high a confidence in it; and should especially not fall into the error of assuming that when the pollution is very great in a stream it must be equally great in another portion; one should estimate the degree of pollution at different points. One must keep in mind constantly that the sedimentation which takes place in slowly-flowing streams, which is such an important factor in lakes—possibly the principal factor of self-purification—does not remove the greasy matter from the water, but only removes it from sight. If one examines such streams, as for instance the Warnow, on two different points more or less removed from each other—say 8 to 10 kilometres—one can establish a purification in the quantity of organic matter and of bacteria; but the diminution in the organic matter rests in larger part, not upon the alteration of the same, but upon its sedimentation; because after sedimentation one finds that the diminution in the organic matter is only quite small, as compared with the diminu-

tion at the two points 8 to 10 kilometres apart. It is necessary to differentiate between this form of purification and that in which the organic matter has really disappeared and become converted into inorganic matter."

Pfeiffer and Eisenlohr (*Archiv für Hygiene*, Bd. XIV., p. 90, 1892) in their investigation of the river Isar found large quantities of a peculiar form of beggiatoa. Samples of water collected at different points of the river were found to contain enormous quantities of active growths of beggiatoa roseo-persicina (Zopf). Between the threads of this organism, however, other fission fungi were found in enormous numbers, as yeast, diatoms, protozoa—in fact, all possible forms of lower vegetable and animal life—forms which were not examined further because they had no significance with regard to the question under consideration. From their investigations it seemed evident that this particular variety of beggiatoa was only present in polluted waters, and did not penetrate into the fresh water streams entering the river. Its great prevalence at any point appeared to indicate the presence of undue quantities of organic matter.

Schenck (*Centralblatt für Allgemeine Gesundheitspflege*, Jahr. XII., p. 365, 1892) in his investigation on the significance of the Rhine vegetation in the self-purification of the river, reports on several forms of algæ found adhering to the stones along the banks in large quantities, which seemed to him to have some influence upon the purification of the river. Among the chlorophyll-free plants he says that the saprophytic water plants of the first and greatest importance are the bacteria. The two forms which he says require especial consideration, from the large numbers found, are the beggiatoa alba and the cladotrix dichotoma. He says that the beggiatoa is of great importance with respect to the subject under consideration, occurring in especially large quantities beneath the different sewer openings,

forming a slimy layer sometimes floating in the water, and covering everything along the banks. These masses consist of innumerable single threads built up of short members, which contain numerous sulphur granules in the interior of the cells. Though distributed everywhere, the organism attained its greatest development only in sewers or in grossly-polluted water. The cladotrix dichotoma was usually found along the bank, in connection with the beggiatoa and in connection with the cladotrich glomerata, in polluted water. These fission fungi form the most important part of the chlorophyll-free water fungi along the polluted banks.

With regard to the algæ, he cannot coincide with the opinion of M. von Pettenkofer, that they play an important role in the purification of the Rhine, because he has nowhere observed that they grow in especial luxuriance in impure water. He coincides with the opinion of J. Ufflemann that the role of the algæ in the purification of rivers should not be overestimated, because it has been established that the green-thread algæ and most of the diatoms can exist only in fresh or slightly polluted water, and that their action fails where it is most desired. It is otherwise, however, with the chlorophyll-free saprophytic bacteria. Schenck believes that "the water bacteria in their totality play the principal role in the purification of rivers, as far as living organisms are concerned. Among these the beggiatoa alba has especial significance, because of its occurrence in large masses. It is, besides the plentiful occurrence of cladotrix dichotoma, the most common organism that is found in all river waters containing putrefying organic matters. It is found in the Rhine throughout the whole year. These organisms take from the water the necessary substances for their nourishment, multiply rapidly, and remove large numbers of detrimental bacteria that are thrown in contact with them. A part of the organic matter taken up by them is used in breathing: the

rest they assimilate. They serve as nourishment for the smaller water animals, and these for the larger."

Recently E. Goldschmidt, W. Prausnitz, and others, have published (*Hygienische Rundschau*, Jahr. VIII., p. 161) an important investigation on the death of microorganisms in the self-purification of rivers. Their experiments were made upon the river Isar from 1889 to the present time, by themselves and other investigators. Samples of water were collected at various points of the Isar below Munich; for instance, at upper or lower Föhring, at Ismaning, at Freising and at Landshut. In all these investigations it was found that there is a uniform diminution in those bacteria which grow on ordinary gelatin media, in regular gradation as one proceeds down the stream. The following results show fairly well the rate of diminution at the different points, and are taken from examinations made in December, 1893, showing at Föhring 24097 organisms per c. c.; at Ismaning, 15065; at Freising, 7134; and at Landshut 1976.

As the result of their investigation they have reached the following conclusions:

"(1) The self-purification of rivers, as shown in the disappearance of impurities, is not influenced by the activity of the microorganisms.

"(2) The disappearance of the microorganisms which grow on gelatin media in polluted streams takes place during the day as well as night, and is not influenced by light, though sunlight seems to assist in killing off the bacteria.

"(3) The death of microorganisms follows rapidly, and during the course of 20 kilometres, requiring about eight hours, 50 per cent of the germs disappeared."

Undoubtedly, the facts as presented by this thorough and practical investigation can be interpreted in several ways. In the first place, it must be born in mind that the nitrifying bacteria, those which are concerned most particularly in the purification of

polluted waters, do not grow on the ordinary gelatin media; consequently these did not enter into the consideration of the bacteriological analysis made by these investigators. In the second place, through the action of sedimentation the organic matter subsided and took its place on the river bottom; with the subsidence of the food material for the microorganisms it is most evident that they also took the same course; so that in this manner a considerable proportion of the microorganisms may have been removed. Furthermore, it is altogether probable that there was, and always is, a marked reduction of those bacteria which are capable of growing on gelatin media, and that they are destroyed through the purifying agencies at work in flowing streams.

From experimental studies of the factors concerned in the purification of water in sand filtration, on the large scale, it has been learned that the principal factor concerned in this process is the action of the nitrifying bacteria. These nitrifying bacteria, as is now well known, form a coating of zoöglea masses, covering the bed of sand and adhering to the sand particles in the upper portion of the filter. Through the life activities of these microorganisms the organic matter contained in the water is broken up and mineralized, that is, converted from an organic to an inorganic state. These microorganisms are everywhere present in soil, and are the factors concerned in the breaking up of organic matter and its conversion into inorganic compounds. These same microorganisms are also active, at least to a certain degree, in all flowing water. Their action here is probably not as extensive as when they occur in those large zoöglea masses on the bed of sand in sand filters.

Notwithstanding the adverse conclusions reached by Messrs. Goldschmidt, Prausnitz, and others, as the result of their investigations of the river Isar, it seems to be generally accepted that the most important factor

in the self-purification of polluted waters is that of the nitrifying bacteria. These bacteria do not grow on the ordinary culture media, and consequently in the bacteriological studies made by these gentlemen on the Isar water these organisms were not taken into account; consequently it is probable that their conclusions are erroneous.

As far as we know, there are several forms of microorganisms that compose the group of nitrifying bacteria. Winogradsky has described two distinct forms of these microorganisms, one of which he has called the nitro-monas; the other, the nitrifying bacillus. It is believed to-day that one group of these organisms is concerned in the conversion of organic matter into ammonia, while another group carries the conversion a step further, changing the ammonia into nitrous acid; while still another group of organisms completes the nitrifying process by converting the nitrous acid into nitric acid.

It will be seen that we have considerable experimental evidence that the self-purification of streams is an established fact, and, likewise, the factors concerned in this purifying process are fairly well understood. Notwithstanding this evidence, all investigators are agreed that these purifying processes are essentially quite limited in their power, requiring considerable time for their operation, even under the most favorable circumstances, and consequently their power must not be overestimated. It is evident that we cannot rely on these processes for the purification of grossly-polluted streams, unless the distance through which they flow is very great and considerable time is consumed in passing from one point to another. Consequently our safest course lies in the prevention, as far as possible, of the pollution of surface waters by the interception and purification of sewage and other polluting materials before allowing them to gain access to surface waters, especially flowing streams. In order to do this effectively, we require the enactment of

laws, like those in force in England (Rivers Pollution Act, 1876), prohibiting the disposal of sewage into water courses.

As long ago as 1876 the Massachusetts State Board of Health made the following recommendations with regard to stream pollution by the sewage of towns:

"1. That no city or town shall be allowed to discharge into any water course or pond without first purifying it according to the best process at present known, which is irrigation; provided, that this regulation does not apply to a discharge from sewers already built, unless water supplies be thereby polluted; and provided, also, that any intended discharge of sewage can be shown to be at such point that no nuisance will arise from it.

"2. That no sewage of any kind, whether purified or not, be allowed to enter any pond or stream used for domestic purposes.

"3. That each water design should be regarded by itself in the preparation of plans for sewage and water supplies.

"4. That accurate topographical surveys always be made of all towns before introducing water supplies or sewers.

"5. That steps should be taken by special legislation, based upon investigations and recommendations of experts, to meet cases of serious annoyance arising from defective arrangements for the disposal of sewage."

The State Boards of Health of a number of other States have also directed attention to the dangers arising from polluted streams, and have endeavored to secure legislation against the pollution, by the sewage of towns, of streams and ponds, which serve as sources of water supplies for other cities and towns. So far, the only direct legislation of importance that has been secured in any State, prohibiting the pollution of surface waters, is that of Massachusetts, where all matters relating to the introduction of new water supplies and sewerage works are under the direct supervision of the State Board of Health. Several attempts have been made to secure legislation of this character in this State, but all have failed.

THE INDIVIDUAL COMMUNION CUP AND ITS CRITICS.

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Four years have elapsed since the individual communion cup movement was started on a well-defined basis and in a decided manner. One year later its status, history and reason for being were reviewed briefly before this society; and last year its progress was more fully and systematically stated (*Jour. Amer. Med. Asso.*, Oct. 16, 1897), in a critico-historical, statistical and rational manner in a paper read before the American Medical Association—Section on State Medicine.

That successful sanitary reform whose way of advance has been easy; whose burdens of ridicule and scorn have been light, and whose obstacles of prejudice, indifference and unreasonable opposition have been few, the memory of man knows not of. Genuineness, soundness of principle and sincerity of purpose make success ultimately certain; but the elements of obstructive criticism combine to make it more remote, and less general; on the other hand, the "counterfeit presentment" of reform is sure to fail sooner or later, no matter how plausible and praiseworthy its earlier appearance may seem to be. Suffice it to say at this point that if steadiness and quietness of adoption are a criterion, then the growing use of individual communion cups indicate a hygienic reform of stability, true merit and satisfactory efficiency.

It is the purpose of this paper to show that this movement is sound, sensible, sanitary and sacred, both in conception and practice, by pointing out the fallacies of the criticisms that have been directed against it

I "Present Status of the Sanitary Movement for the Adoption of the Individual Communion Cup." Pa. Med. Society, May, 1895.

from various quarters. The bombardment has been mainly from the ecclesiastical forces, although an occasional shot from an old smooth-bore, muzzle-loaded, recoiling ("kicking") medical gun has been heard, unfortunately, for the shooter.

Ignorance of the true issue and a degree of philistinism have, in in most instances, been responsible for the most virulent criticism; and only those that have been most commonly and strenuously put forth will be referred to. Thus the individual communion cups have been opposed because of the following ideas:

1. *That they are a fad.*—A fad is a temporary popular innovation; a novelty to-day, a passing fancy to-morrow. The individual communion cup is truly an innovation; but it has come to stay, just as vaccination, anæsthesia, aseptic surgery, skiography and the bicycle have come to stay, and were not even these more hotly opposed or sneered at as sensations or fads? History, however, has proven their worth, and is proving the worth of this sanitary reform, which has for its groundwork the rockbound principles of cleanliness, the prevention of disease and courtesy of manner. Therefore this has permanency; a mere fad has not. Moreover, it is not as yet generally popular (using the term here in its highest and restricted sense). A fad soon becomes easily popular (in a superficial and often ignoble sense), and as soon sinks into oblivion; while the advocates of this movement have to contend for the recognition of its merits, and whenever the individual communion cups have been adopted there is a deep, lasting and harmonious appreciation of the change. Words are not needed to show that they are not a fad; we need simply to observe and believe the facts.

2. *They are unnecessary.*—It is urged by those critics whose "hindsight" is greater than their foresight, that there is no hygienic reason for individual cups at communion, because our forefathers got along very well without them—"and they were as good and

more healthy than their fastidious successors"—so why cannot we? This question seems so superficial and time-worn that one hesitates to make any extended reply to so obvious a fallacy.

Well, many electrical appliances are also unnecessary in the same sense; electric cars are unnecessary to-day because our ancestors got along very well on horseback and in stage-coach; vaccination is needless, for our great-grandfathers got along with bleedings, vile drugs and brutal nursing or no nursing at all, and if they did not escape from death it was useless to "fly in the face of Providence"; why use antiseptics in surgery, when our professional predecessors were satisfied to see a wound flooded with "laudable pus"? Why not do away with modern ventilating and heating systems, cushioned pews, and warmed baptismal waters in our churches, so that the members may be made as uncomfortable physically as our pioneer ancestors or a Hindu yogi, perchance? But why should we emulate the errors and superstitions and shortcomings of our forefathers? Our Christian religion can be kept pure, undisturbed, regenerating and helpful without them; and equally so, by adopting modern edifying knowledge to the external religious symbols without killing the spirit of faith or worship.

Such criticism as this has the jelly-fish sting of retrogression, not the vertebrate step of progression. And for a critic to say that our "fathers' fathers" were healthier than we, is to be "hoist by his own petard," for, if so, then have we all the more need to be scrupulously careful and vigilant in hygiene.

3. *The dangers of contagion from the ordinary chalice are nil, or exaggerated.*—If the common communion cups are unclean, as used by many, there is likewise a possibility of still further contamination with disease—producing viruses from the mouths of those able to partake of the wine, and yet who may be affected with tuberculosis of the

lungs, incipient diphtheria, influenza, cancer, syphilis, follicular tonsillitis, pyorrhea of the alveoli of the jaws, etc. It has been denied that the menace to health here is greater than, or as great as in various public places where a common drinking cup is used, as in schools, railway stations, and the like. This is probably true: church members as a class are much cleaner and healthier in mouth than the motley crowds who quench their thirst at public fountains. But for three (3) reasons this admission is counterbalanced in that, first, the communicant is not free to rinse the rim of the chalice with cleansing water; secondly, he is not supplied with a fresh quantity of liquid for his individual use; thirdly, he may not be in a position to decline the cup, except under embarrassment from the likelihood of his action being misconstrued, and at the sacrifice of all serenity of spiritual devotion, joy and meditation that may be and should be permitted to be induced by the occasion. Disraeli's saying, "It is much easier to be critical than to be correct," has some appropriate bearing upon the communion cup question, so far as the exaggeration of the disease-transmission aspect is concerned; for in some directions and by some bacteriological enthusiasts it has been exaggerated. Not, let it be understood, should the actual danger be emphasized less, but the manifest uncleanness should be emphasized more. Right here, it is plain to be seen, lies the *true issue* of the whole matter. Surgeon-General Sternberg voiced the best judgment of the profession when he wrote in regard to this question: "The present state of science fully justifies the opinion that certain infectious diseases may be transmitted in this way." And yet, the writer holds, that it is not essential for the justification of the sanitary individual communion cup to have to prove, as some have insisted, that cases of disease have been traced to the ordinary communion chalice; conversely, neither can it be proven that disease has not so been caused. That is a misconception; and it

evades or omits a proper appreciation of the fundamental "ounce of prevention" principle of absolute cleanliness. To put it in logical statement, if cleanliness is next to godliness, then the much-used, breath-blown, saliva-tainted, mustache-dipped, and sometimes tobacco-fouled and infected communion cup is not next to godliness, for it is not, and circumstantially cannot be clean; in short, it is more consistently Christian, as well as hygienically imperative to substitute the only practical means yet devised to afford a clean, safe and no less impressive and sacred administration of the communion wine, namely, the individual cup. Again, the writer desires to protest against the assertion sometimes made that the "bugaboo" held up is the special danger of syphilitic infection. While that is not at all an impossible occurrence, either from perfectly innocent persons, or "black sheep" in the flock, it is well to charitably leave a disagreeable and one-sided phase of the subject, and to advocate the broad and security-giving principle of the prevention of any and all disease. Cleanliness should be practiced religiously in the literal as well as in the merely sanitary sense; at the Lord's table as well as at our home tables.

One critic has complained because of the wrong and irreverence in suggesting that the communion chalice may be unclean or contain microbes, and thus causing the thoughts of communicants to be diverted from the spiritual intent of the memorial sacrificial feast. This is interposing a sentimentalism that does not and cannot hide the facts. It is not sacrilegious to be clean; nor is it irreverent to be reasonable if one is right. Such argument reminds us of the proverbial self-deluded ostrich hiding its head and thinking itself unseen by the enemy.

4. *They are impracticable.*—This has been a common ecclesiastical criticism. The briefest, and, to an observing man, sufficient reply to this benighted and belated objection is, that not only are individual

communion cups practicable, as demonstrated nearly five years ago, but they are now in practical use, regularly and satisfactorily in more than three hundred (300) churches, including all the principal denominations, and by about one hundred and fifty thousand (150,000) communicants.

5. *It is inexpedient to advocate them.*—This is, perhaps, the most frequent criticism by medical men, though very few, it is gratifying to state, have protested at all. Inexpediency is often the cry of diplomacy, timidity and policy, not of principle, candor and courage. It is surely admissible to ask whether cleanliness, for instance, is ever a matter of simple expediency instead of necessity. It cannot be that sanitarians should lack in conviction regarding a lucid and essential hygienic principle; is it not, rather, lack of *courage of conviction*, to delay and dilly-dally on the flabby plea of inexpediency, even to avoid the practical application of the principle? Let no medieval and insincere casuistry tease away the integrity of the real issue; nor impotent protests of inexpediency stand in the way of practical advance and adoption!

That sanitary reform which is true in fact, noble in beneficent possibilities and feasible in practice needs not alone the scientific cocksureness of an Agassiz or Leidy, a Jenner or Pasteur, but also the boldness and vigor of a Rush, a Huxley, a Paul or a Luther. In a given church or community, or at a given time, it may be inexpedient to urge the adoption of individual communion cups, but it is never inexpedient to point out and promulgate the principles of cleanliness, healthfulness and Christian courtesy that underlie their use.

Probably the plea of inexpediency is often based upon the idea that compulsion is intended by those who advocate and urge a sanitary communion. Nothing could be further from the truth. The method of this, as of every genuine reform, is educational, not coercive. Indeed, it would be most pernicious and foolish to attempt to enforce

any such thing in this free country, where religious liberty and the separation of Church from State are cardinal doctrines of our constitution. Societies, conventions, boards of health may sanction and recommend, they cannot compel in such matters. It is not only expedient, but right to proclaim a beneficent sanitary principle, and agitate for its recognition and adaptation to practice. Such is the foundation and superstructure of the individual communion cup movement.

6. *An unwarranted and sacrilegious interference with religion.*—This is an overwhelming criticism, if true. Assuredly it is not so, or the many congregations, ministers and theologians who now approve of and use individual cups would not have adopted them. It has nothing to do with creed or dogma, with doctrine or polity in religious affairs; nor does it interfere with the essential elements of communion as believed and administered in the Protestant Churches. It merely aims to so change the mode of giving the wine (an external form), so that cleanliness may be assured and health preserved by so much. It would be unwarranted if it struck at the essence of Christian truth and faith; or sacrilegious if, either openly or insidiously, it coldly disregarded or skeptically scorned the sacred meaning of the Lord's Supper. Religious conservatism is commendable. But Christianity is not destroyed by altering forms, any more than altering the position of armor-plate destroys a battleship. It may be that ceremonial law must yield to the law of man's welfare, just as critical pharisaism had to give way to the sublime simplicity and divine spirituality of the apostolic Church of Christ.

7. *The movement is subsiding and a failure.*—Blind, false and disgruntled statement this. Those who make it may be deceived by the absence of noisy and sensational agitation. Yet scarcely a week goes by but what the writer learns of one or two churches adopting individual communion cups.

The very quietness of progress is evidence of stability and value; and according to the law of probabilities affords a basis for the belief in their gradual and universal adoption—"a consummation devoutly to be wished."

To read such endorsements as have appeared in representative religious journals only within the last few weeks does not give the impression or indication that the movement is dying out. Thus *The Congregationalist* reports: "An increase of impressiveness, dignity and solemnity an increase of attendance at the service; a large number declare that nothing would induce a return to the old custom, while not one expresses a regret at the new order." Nearly one hundred congregational churches, in fourteen States and one Territory are using individual communion cups. *The Presbyterian* suggests that "no more discussion about the sanitary aspects of the present method of administering the eucharist, which is bringing separate cups into use," is needed.

The Commonwealth (Baptists) says: There is the new departure as to individual communion cups, although, once tried and tested, opposition to it quickly fades away.

A prominent clergyman in the Reformed Church refers to them as being scriptural, historical, decent and orderly, cleanly, convenient, sanitary, permissible under the constitutional law of his denomination, and most commendable and satisfactory.

An Episcopal rector writes of the scripturally needless and always nauseous practice of consuming the dregs of the wine after the members have communicated.

A word as to the caustic fling, that this movement is due to "infidels" and "exalted scientists," with destructive ends in view. Most physicians, Christian and unchristian, but ethical in profession, favor it, but the former have inaugurated it, and have been and are now in the forefront in recommending it, because they are in the best position to recognize the evils of the old, and appreciate the good of the new custom.

A spirit of wholesome progressiveness and love of humanity is as noble and sublime in the warfare against disease and dirt, as the spirit of patriotism and love of liberty in the warfare against Spanish demons and destroyers.

DISCUSSION.

Dr. Theodore Diller, Pittsburg: I, like many others, have read a great deal that has been published by Dr. Anders, and others, in regard to the individual communion cup. There can be no possible doubt that various bacteria may get upon the communion cup. That, I think, everyone must admit; but when we consider the very large number of communicants partaking of the sacrament year after year, thousands upon thousands, and when we consider that the clergymen and priests of many religious denominations, for instance, in the Episcopal Church, constantly partake of the cup, and then consider the great rarity with which disease has been communicated in this manner, I do not think the communion cup is a source of contagion that is to be greatly feared. I have talked with a number of clergymen on this subject, and have been unable to learn of a single case where a clergyman has contracted a disease in this way. While we must all admit that the contention is well made from a theoretical point of view, the practical danger is so slight that I do not think it is right to ask a Church to modify one of its sacraments, a sacrament which is as old as the Church itself, and which has come down to us in its present form through the centuries and hallowed by sacred traditions. It seems to me that the advocates of this change are straining at a gnat, and that the energies which they are expending in this direction might be better employed in other hygienic matters, such as, for instance, water filtration. I think it is practically useless to waste energy upon this matter, which, I fancy, will not be heard of very much longer, when vastly weightier matters are calling loudly for our best energies.

Dr. G. B. Massey, Philadelphia: I rise simply to dissent from my friend Dr. Diller on this matter. I think as scientific men we should all endorse the effort which Dr. Anders and others are making to further the cause of hygiene in this particular. Of course, as scientific men we cannot discuss the religious aspect of the ceremony, but, as Dr. Anders has said, there is no reason why one is not just as devotional as the other. From a hygienic point of view we can discuss it, and simply because there are other means of infection, we are not warranted in ignoring this one.

Dr. H. S. Anders, Philadelphia: If there is no further discussion I would say in reply to Dr. Diller that I know many Episcopal clergymen who are opposed to the continuance of the common communion cup, where they are compelled to drink the dregs after everyone else has partaken. Recently a clergyman out West asserted that if it were not for the opposition of the bishop of his diocese that he would abolish the common communion cup. Many clergymen, of various denominations, including the Episcopal Church, take the same view, but they are powerless to do anything. With regard to his remarks that the agitation will not last much longer, I would say that I must reject that criticism. I wish to say to him that if he thinks this movement is going to die away he is very much mistaken. Not a week goes by in which this matter is not being agitated in some community from California to Maine and from Minnesota to Texas, and many Churches are adopting it—Churches of all denominations, Congregational, Baptist, Presbyterian, Reformed, Lutheran, Methodist, etc. If the movement was dying out these things would not be going on; and I tell you the rate of advance during the last six months is truly marvelous. The movement is spreading quietly but steadily, and the fact that it is spreading in this manner argues, it seems to me, the soundness of the movement. I think it is

the duty of the physician to take this matter up, as opportunity may offer, in his Church and locality. There are plenty of Churches ready for the movement if some physician in the community would start it. I think the Church should be in the front rank in all sanitary matters—in matters of cleanliness as well as godliness.

SOME POINTS IN INFANT FEEDING.

BY EDWIN ROSENTHAL, M. D., OF PHILADELPHIA,
Secretary Section on Diseases of Children, American
Medical Association; Physician to the Home for
Hebrew Orphans, etc.

The question of infant feeding is always a debatable one, and the number of books, monographs, and discussions that are daily presented proves the interest to be a constant one. We can speak of any new method of feeding the infant in the same way as we would speak of a new method of treating diseases: that it is most successful always with the one that first devised or first used it. Frequently the method is presented in such a manner that its meaning is oftentimes shrouded in obscurity; or again the method of a preparation of food may be written or described, so that its manufacture will be open to all, but when these directions are followed, we find that we lack the most essential features that are needed, and that our work is nil, for not understanding some unexplained technique. Again some methods, that are perhaps among the best may be clear in its preparation, but when it comes to its application, is so beset with scientific technicalities that its use is limited to the few who make the study of infant feeding a special one. It will be impossible for me to condense in a ten-minute paper all that this subject demands, and therefore I will omit many points leading to the different methods in vogue and present for your consideration the one bearing on artificial feeding and which takes as its foundation "cows' milk."

Next to mother's milk, cows' milk may be considered and should be considered the best and safest food. Whilst asses' milk and goat's milk are perhaps superior to cow's milk, their uses cannot be considered by reason of the inability of the majority of us obtaining it. For this reason cow's milk has the advantage—it can be obtained always, and of sufficient quantities to answer every purpose. To make it acceptable to the child many methods have been devised; some are empirically used, whilst others are prepared to meet the wants of the especial infant. For the latter purpose the term "modified" has been used, and I am told has also been copyrighted or patented. This, however, has little or nothing to do with its use as describing what is meant, and its preparation cannot be questioned, because any method and every method now used and formerly used by nurse, mother or physician—where cow's milk has the addition of water, or sugar or any of the proprietary preparations of food, is in the nature of things a "modified" food.

As known to the profession, modified cow's milk is prepared in two ways: 1. The milk laboratory; and 2. In the home. The milk laboratory has the technique correctly, and so its preparation is as correct as can be obtained. There is, however, the element of cost which makes it above the reach of many, and besides as the laboratory is a corporation and savors very much of a monopoly, it is not looked upon with much favor. Again from an ethical standpoint objections can be raised, as the process and the word are both patented.

Modified milk can be prepared in the home, and with reasonable care, the resulting food can be the equal of the laboratory product. Many methods of modifying milk at home can be given, but the safe and sure rule to follow is not to adapt the child to the fixed laws of percentages, but to prepare the milk to the needs of the child. For practical purposes we speak of the ingredients of modified milk, as: Fat, sugar and proteids. And as a working basis, Rotch gives the fol-

lowing formula: Fat, 4 per cent.; milk, sugar, 7 per cent.; proteids, 1 per cent. This may be altered to suit any case by increasing or diminishing any of the ingredients; so that we can obtain low fats, low sugars, or low proteids, or the opposite. For home modification Rotch describes at length the process, and implements necessary: The sterilizer, thermometer, tubes, graduate, sugar, measure, siphon, etc., so that the method needs only the technique to make it perfect. As however this is always lacking, I wish to describe a few methods that will answer the purpose, and will aid to the results we wish to obtain.

Milk as it comes from the dairy is unfit to be given to the infant unless properly prepared. It is well in the first place to heat the milk, and to do so rapidly but not too rapid to scorch or burn it. Nor is it necessary to continue the application of heat as is done by the so-called sterilization. This milk so prepared can then be mixed with any of the ingredients which experience or practice teaches you to use. The simpler the process the better. In the early days of the infant's life, I may say from the first day, I use the cow's milk (the best quality such as is obtained direct from the cow, and which is simply heated without the cream being removed) and diluted equally with boiled water. To this mixture I add a small quantity of salt (the common table salt), not enough to be tasted. This is the food for the new-born infant, and two ounces are given once every two hours. Whilst I give this I examine carefully the stools of the child to see if digestion takes place properly. I gain time so that I can choose the proper food that this infant will require. Often I find this is alone sufficient, if not, or if I find that digestion is incomplete then I begin the use of other materials. Always, however, depending on the cow's milk as the basis for further feeding. These materials are chosen with due care, and I am always guided by the condition of the stools. Barley water and oat meal water is what is commonly

recommended as a diluent, as well as a modifier. This is purely empirical, and is frequently ordered and chosen without regard to the true condition of the child, or what it really requires. Frequently it meets the want, however, and for that reason, it is often used in every case. I make a simple distinction when I desire to use either of these preparations, and that is whether the bowels be constipated or not. If this condition is due to the food simply, and its use is indicated, I use the oat meal water in cases that suffer from constipation and the barley in those that have diarrhoea. Sometimes in cases of malnutrition, where diarrhoea is the symptom, barley water is useless or does not answer the purpose. I then use the following formulæ, and I can claim as much good result therefrom as from any form of modified home-made foods. It is known as the flour ball food (Imperial Granum). It is made as follows: Plain wheat flour is boiled in a bag for 5 hours, then dried, broken open, the rind rejected, and then grated into a powder. I take of pure milk (mixed and scalded) one pint; of sterile water, one pint; of the boiled flour, a heaping tablespoonful. A sprig of cinnamon bark (sometimes to give some flavor, with certain children) and the common table salt. The milk is placed on the fire, and heated. The flour is rubbed to a fine paste with the water, and then added to the milk. The cinnamon is added, and then it is brought to the boiling point, taken from the fire, the salt is added, not sufficient to taste, and the whole is then placed on the ice. It is then again heated when used. Two ounces every two hours is given to a child one month old. It is increased one-half ounce every month, whilst the water is reduced one ounce every month, the milk is added to keep the quantity up to the two pints. I have with this method seen some very surprising results, and feel no hesitancy in recommending it. Among the proprietary foods that are used to modify milk, the Mellin's Food is perhaps the best known.

This, like other foods, has its friends, and its advantage is that it can be used for the home modification, and requires little or no skill in its use. When milk is contra-indicated (as in the summer diseases of children) nothing can compare to pure albumen. This obtained from the white of the egg, I have used with most gratifying results. I take the white of one egg, and add to it, four times its bulk of pure sterile water, and again the pinch of salt, and give it to the child once every two hours. I have thus used 12 eggs in the 24 hours and have found it well borne. I am at present using the "Fat-Milk" (known under the name of Gaertner's Mother-Milk). This is a pure and simple modified milk food, and is prepared in the same way as Rotch's formula. Here is employed the centrifuge, for the purpose of obtaining a milk resembling that of the woman. "Fat-Milk" is obtained by so arranging the tube that expels the cream from the centrifuge separator, that just one-half of the milk contained therein is expelled and collected. In this way, as casein, sugar, and minerals are not affected by the process of centrifuging, the percentage of the latter is not changed, while that of the fats is doubled. I have used this in various diseases, and also as a food pure and simple, and I can say that its use is indicated in the same manner as that of all the modified milks, whether of home make or made in the milk laboratory. It is a very difficult task to attempt to put into a ten minute paper the subject of infant feeding. There are many, very many points indeed that are very essential to the correct feeding of the infant. One point I wish to particularly emphasize, and that is the use of salt in all forms of food. This, with an occasional drink of water to the infant, and the choice of a correct food will place the little one on the safe road of a healthy childhood.

DISCUSSION.

Dr. H. S. McConnel, New Brighton: I think the society owes Dr. Rosenthal a vote of thanks for his paper—it is a very in-

structing one. It is a subject which interests, or should interest, all of us. There was one point, however, which he did not make very clear. He said in giving his food that he based his conclusions on the bowels. I think the kind of food depends upon the character of the diarrhoea. If we have a putrid diarrhoea, we do not want to give albuminoids at all; if we have a fermentative diarrhoea, we do not want to give starchy foods. These are very important points in infant feeding.

Dr. T. D. Davis, Pittsburg: I do not think there are any more important questions that can come up before this society, than the question of the proper food for infants and the proper food for invalids. I gained the idea from listening to the paper that the author thought pure cow's milk was very easily obtained. That is the whole difficulty in a nut shell. If it were possible to get pure cow's milk, there would have been little necessity for the reading of the paper. In the large cities it is simply impossible to get pure cow's milk. As I boarded the train to come to this meeting, there was a train load of milk being unloaded—2,000 gallons of it. That milk is brought from anywhere between 50 to 150 miles to the city. Of course most of it was milked the day before. It was no doubt canned before the animal heat was removed. It was jolted over country roads to the railway station. It is jolted on the train as it is being brought to the city. Then some of this milk is delivered to the customers in this condition, but much of it goes through various processes and comes out as so-called "Pasteurized" or "Sterilized," and dear knows what all. It is then put up in handsome bottles, and delivered to the customer from very handsome wagons and called "pure, fresh, country milk." It is very far from being pure milk, and often contains such ingredients as salicylic acid or other preservatives to keep it from turning sour. Now I say when the milk has been subjected to all this that it is not proper food. That is

why I say it is practically impossible to get pure cow's milk in the city. In the country where pure cow's milk can be obtained, artificial preparations are almost entirely unnecessary.

Dr. Alex. Craig, Columbia: I was much interested in the paper and especially interested in the remark of the last speaker regarding milk. It has been my fortune to have been able to follow this subject of the source of the infection of milk farther than Dr. Davis has done. Back of the country town, back of the railroad station, at the farm itself you will find the first infection of the milk due to the condition of the dairy cattle in many instances. During the past few years I have been following the examination of dairy herds with interest. If I could take time to tell you some of the sights I have witnessed, it would not only shock but alarm you. I have frequently seen tuberculous glands removed from milch cows at post mortem examinations, so degenerated as to be nothing but pus sacs. The milk from a cow so diseased is infected before it leaves the cow and contaminates that milked from its healthy companions. If this state of things exists at the farm, what must be the condition of the milk when it reaches the consumer?

Dr. Edward Rosenthal, Philadelphia: I wish to say that I think it is a crying shame that we must lose our faith in humanity from one end of the world to the other. I can hardly believe that milk men, as a general class of individuals are so destitute of honor as to sell impure milk, as we are led to suppose by the remarks which have just been made. At least the basis of condensed milk must be pure, as it is produced and manufactured by the milk men themselves, and I understand from cattle which they alone control. I believe that the milk we get in Philadelphia is pure. At least the milk I get at my home, furnished me by the Lester Milk Company, has at least four inches of cream on it. The point which Dr. McConnel brought out is just the point which I wish to emphasize, and that is: In this matter of infant feeding we must be guided by the stools. If the stools afford evidence of mal-assimilation do not continue the same kind of food. If the child cannot take and assimilate milk, give it albumen or some other kind of food. In the preparation of all my foods, the basis is cow's milk, and I believe I get it reasonably pure.

... THE ...

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THE DENVER MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

Year by year the meeting of the American Medical Association assumes greater importance, and is looked forward to by the members of the medical profession with increased interest. It should and does represent the highest organization of medical men in America, and as long as its units of structure, the county medical societies, are upheld and their entity, as foundations upon which the Association rests, respected, the success of the central organization will remain assured. That this is recognized by those having the best interests of the organization at heart, was evidenced more than once at meetings of recent years. The tabling a second time of the resolution to grant representation to other organizations having codes of ethics moulded in the same lines as that of the American Medical Association, must be recognized as a direct victory of the County Society over the more or less heretical, unofficial medical societies, and the defeat of the motion to admit the seceding New York State Medical Society doubtless rested on the same cause. Dr. Bishop's point of order on this latter resolution, that the organic law of the association recognized but one State Medical So-

ciety in a State, and but one County Medical Society in a county, was well taken and very properly sustained by the Chairman.

The general success of the meeting at Denver is attested on all sides; over 1,500 registered physicians were in attendance, and together with a large number of unregistered ones and many visiting ladies, enjoyed the liberal hospitality of the Colorado physicians. The hearty invitation given by the Ohio delegates in Philadelphia last year to meet in Columbus elicited a fitting response in the selection of that city for the meeting in 1899. The result of the election of officers will also meet with unalloyed approval. The absence of the President, Surgeon-General Sternberg, owing to the demands of higher duties, while much to be regretted, gave Dr. Mathews an opportunity to exhibit his executive abilities, and his promotion was simply a logical sequence. The complete list of officers elected is as follows:

President, Joseph McDowell Mathews, of Louisville, Ky.; First Vice-President, W. W. Keen, of Philadelphia, Pa.; Second Vice-President, J. W. Graham, of Denver, Colo.; Third Vice-President, H. A. West, of Galveston, Tex.; Fourth Vice-President, J. E. Minney, of Topeka, Kan.; Secretary, William B. Atkinson, of Philadelphia, Pa.; Treasurer, Henry P. Newman, of Chicago, Ill.; Members of the Board of Trustees—Alonzo Garcelon, of Maine; I. N. Love, of St. Louis, Mo.; H. L. E. Johnson, of Washington, D. C. K.

LAY APPRECIATION OF PHYSICIANS' LIFE-WORK.

A common complaint of medical men against the laity is one of inappreciation and ingratitude for the services rendered. It must, however, not be forgotten, that when a physician renders his bill and it is paid in full, he has received all to which he is entitled; but the fact is, he so frequently receives more than the amount of his bill, receives gratitude, good-

will and blessings, that when these are not continually showered upon him, he is prone to imagine himself denied of all that should rightfully be his. The more a physician makes his calling one of business, the less gratitude will fall to his share, for in a pure business transaction, gratitude has no place. Happily, however, for the sick, there are few physicians who do not lose sight of the financial interest in a case when the occasion demands it, and society at large is well aware of it.

The hardships of a medical life, and more especially in country practice, and the appreciation of the life-work of physicians, have been well illustrated by the editor of the *Monongahela Republican*, in commenting on the death of Dr. J. G. Sloan, of Monongahela, a late member of the Washington County Medical Society. The following extract is taken from the editorial referred to:

“LIMIT OF ENDURANCE. — MONONGAHELA DOCTORS WHO HAVE DIED IN YOUNG MANHOOD.

“Someone remarked lately that there had been an alarming fatality among the physicians of Monongahela, within the last few years. This is too true, but have we ever stopped to think how surprisingly true it is, that nearly all of the eight doctors now recalled, recently dead, were comparatively young men, who died when at the most useful age in the profession? Neither Drs. Morrison, Gamble or Sloan were old, while all the others, Lytle, Long, Kernan, Scott and Patten, were young, and with one exception, apparently strong and healthy men, yet they dropped with their armor on, as warriors do in a breach. * * *

“Have you ever thought that each critical case a physician takes in charge is a complex problem, which he must solve? Have you noticed the anxious, care-worn look of your kind doctor, when his patient is hovering between this and the other world? Do you imagine he takes life easy when sleeplessly he is calling up from past experience, or delving in tomes of science for every remedy that will assist? See him at a surgical operation when a life depends upon the skill with which he uses his in-

strument. Now he is fighting death in earnest! does he withhold any force of brain or nerve at his command? does he not lavish them all, even the soul emotion of pity, though he must not heed it? His heart and brain are engaged and he expends more of them in this hour than placid lives use up in years.

“But it tells on him quickly; link by link he is slipping his anchor, and one day, when he grows more useful than he ever was before, when every man, woman and child in town knows he is their dear, good friend, his anchor is apeak, one round more, it lifts and he sails away, never to return!

“He has lived his life out fully, he has expended all that he had of strength or emotion in months, where it should have lasted years, lived it amid suffering and death, too often surrounded by the added woes of poverty or crime, a minister of mercy oftener than we knew.”

While, as we have already stated, the purely professional part of a physician's life is duly appreciated by laymen in general, it is not so commonly manifested in the daily press, and the above expressions are consequently the more gratifying. May we not hope they may prove inspiring to many a one whose duties and burdens may seem, and perhaps are, greater than should fall to his share? K.

UNETHICAL ADVERTISING DISCUSSED AT THE MEETING OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION.

The warfare against unethical advertising was carried into the Association of American Medical Editors at the meeting in Denver. Dr. George M. Gould introduced a resolution at this meeting requiring that hereafter no journal, edited by a member of the Association, shall admit “reading notices” to the reading pages under any circumstances, but that they may be put in a “publishers' department,” on pages numbered as advertising pages. This resolution was adopted after it was modified so that “original articles,” in which proprietaries are incidentally mentioned, shall not be included in the rule. “This amendment,” says Dr. Lanphear, *American Journal of*

Surgery and Gynecology, "seems to make a law that kills the little pups but lets grown dogs go free," and we are inclined to agree with him; but if the pups are once killed off the grown dogs will, let us hope, soon have their day of reckoning. Dr. Gould, it appears, attempted to go a step farther, and by a second motion exclude all advertisements that advocate the use of any secret or semi-secret remedy like the synthetical coal tar proprietaries. This, however, provoked a motion to adjourn, which was carried, and the trade journals saved, for with the elimination of secret and semi-secret advertisements from the pages, both reading and advertising, of many medical journals, the result would be disastrous—disastrous to the publishers, but proportionately elevating to the honor and dignity of the medical profession.

This incidental reference to proprietary medicines in alleged original articles, it is well known, is a wily and insidious method of advertising resorted to by quacks and proprietors of nostrums in the daily press, where readers are led by some enticing tale into unexpected pitfalls. Investigation into the writings of a number of frequent contributors to medical journals, will disclose the fact that the article is written for the sole purpose of increasing the revenue of the proprietor of some nostrum, especially of the coal tar class. Dr. Gould will do an inestimable service to medicine if he can eliminate advertisements of these from the pages, both reading and advertising, of medical journals. K.

EDITORIAL NOTES.

TYPHOID BACILLI IN THE GALL BLADDER FOR SEVEN YEARS.

Typhoid bacilli were found in cultures made from the contents of the gall-bladder in a case of cholelithiasis recently operated on by Dr. Kelly at the Johns Hopkins Hospital. Seven years previous to the operation the patient had passed through an illness which was presumed to have been ty-

phoid fever, and that the gall bladder became infected by the bacillus typhosus, causing a chronic inflammation of the sac.

K.

SPITTING FORBIDDEN IN PUBLIC CONVEYANCES.

An ordinance has been passed by Pittsburgh Councils forbidding anyone to expectorate on the floors of street cars or other public conveyances or on the floors of any public buildings within the city limits. A penalty of not less than \$1 nor more than \$5 is appended. The ordinance must be considered an excellent one, but there should have been added a clause making it incumbent on owners of conveyances and the city authorities to provide suitable spittoons and these to be kept in an antiseptic condition. K.

PHILADELPHIA HOSPITAL APPOINTMENTS.

At the recent examination of applicants for appointment as resident physician in the Philadelphia Hospital (Blockley) ninety-three candidates presented themselves—fifty-five from the University of Pennsylvania, twenty from the Medico-Chirurgical College, seven from Jefferson Medical College, and eleven from other institutions, seven of the latter being women. Fifteen of the successful applicants came from the University of Pennsylvania, and the remaining ten from the Medico-Chirurgical College.

D. W. N.

PERSONAL NOTES.

Dr. J. K. Weaver, of Norristown, one of the members of the State Board of Medical Examiners, has been appointed by the President Brigade-Surgeon, with the rank of Major.

Dr. Eugene P. Bernady, of Philadelphia, has received from the French government the decoration of the Palms, which makes him an officer of the French Academy.

On June 17 President McKinley appointed Dr. Edward Martin, of Philadelphia, Brigade-Surgeon, with the rank of

Major. Dr. Martin was surgeon of the Third Regiment, Pennsylvania Volunteers

Dr. John H. Gibbon, of Philadelphia, has been appointed Assistant-Surgeon of the Third Regiment, Volunteer Engineers.

D. W. N.

COUNTY SOCIETIES.

At the June meeting of the Lancaster City and County Medical Society a paper on "Malaria" was read by Dr. S. T. Davis, and one on "The Modern Accoucheur," by Dr. M. L. Herr.

The annual meeting of the Easton Medical Society was held on June 9, when the following officers were elected: President, Dr. D. W. Richards; vice-presidents, Drs. J. S. Hunt and J. R. Ludlow; secretary, Dr. B. Rush Field; treasurer, Dr. E. W. Evans; executive committee, Drs. H. D. Michler, Charles Collmar, George R. Anderson, David Ludlow, W. H. McIlhaney, and Robley D. Walter.

The Franklin County Medical Society held its June meeting at Waynesboro on the 28th. Papers were read by Drs. W. F. Skinner, Dry Run; Thos. S. Cullen, of Johns Hopkins University; John C. Greenawalt, Chambersburg; J. J. Coffman, Scotland, and William H. Brosius, Mont Alto. In the evening a banquet was given by the local members of the society.

D. W. N.

Apomorphinae Hydrochloras, U. S. P., is made from either morphine or codeine by a process of dehydration. Apomorphine is morphine minus one molecule of water, but this abstraction of water completely changes its therapeutic properties. Among its many other uses it may be employed as a specific to arrest hysterical convulsions. Given hypodermically $\frac{1}{8}$ grain will stop the most violent convulsions in a few minutes. Care must however be observed in its administration to debilitated patients because of its powerful depressant action.

Reviews.

THE CARE AND FEEDING OF CHILDREN. A Catechism for the Use of Mothers and Children's Nurses. By L. Emmett Holt, M. D., Professor of Diseases of Children in the New York Polyclinic, etc. Second Edition, Revised and Enlarged. New York: D. Appleton & Company. 1897.

The object of this little work is to acquaint mothers and nurses with certain things essential to the proper care and training of children, and the idea is most excellent; but the work is somewhat elaborate for the average mother or nurse to master. The system of questions and answers (as implied in the title) does not appeal to all, but is most impressive to some. While we cannot endorse all the opinions expressed in regard to infant feeding, they are, in general, good, and presented by a man of large experience. Under, "Regularity in Feeding," there is a typographical error, and should read—10 P. M. to 6 or 7 A. M.

J. I. J.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A. M., M. D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. In one 12mo. volume of 360 pages, with 63 engravings. Cloth, \$2.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

This work on most important subjects, appears at a time when many problems in American hygiene and sanitation are still in an unsettled condition. The author fully realizes the lack of interest in these vital subjects, and the need which exists for a briefly and concisely written text-book adapted to the needs of American students. Besides the introduction there are chapters on bacteriology, atmospheres, airs, ventilation, heating, water, food, stimulants, beverages, personal hygiene, school hygiene, disinfection, quarantine, sewage, vital statistics, and the examination of air, food and water. The chapters on air, ventilation and heating contain some recent data in regard to air currents which are valuable. Disinfection and quarantine are pertinent subjects. On account of the military operations now in progress, they will be doubly interesting. The new and powerful disinfectant formaldehyde, apparatus for its generation, its uses and limitations, are fully discussed. The chapter on vital statistics deals mainly with errors likely to be made in estimating life tables and death rates. In a text-book each chapter should be systematically and plainly outlined. This factor of so much help to the student, has been omitted. In other respects this work is thoroughly modern, and especially is this true of its illustrations.

E. B. B.

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John J. Reese, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Fifth Edition. Revised by Henry Leffmann, A. M., M. D., Ph. D., Professor of Chemistry and Toxicology in the Women's Medical College of Pennsylvania, etc. Philadelphia: P. Blakiston, Son & Co. 1898.

The subject of Medical Jurisprudence, heretofore somewhat neglected, is receiving more attention in our medical colleges to-day, and it behooves every practitioner of medicine to be more or less familiar with the essentials of forensic medicine. This work meets that demand well, and, while a small volume, is thoroughly brought up-to-date in this edition, including the use of skiagraphy. The chapters on medico-legal investigations, the post-mortem causes producing violent death, death from different forms of apnea (asphyxia), criminal abortion (feticide), infanticide and malpractice, explain explicitly subjects, the knowledge of which may be of use to us all. One-third of the work is devoted to toxicology, giving most thoroughly a study of all the poisons most commonly met with. The alkaloids of putrefaction (ptomaines) are briefly discussed in the last chapter. The work is conservative, and repeatedly cautions the medical man against making rash statements, and expressing opinions beyond the ken of human intelligence. The text is clear, and the book well printed. It should be in the possession of all practitioners of medicine.

J. I. J.

ACCIDENT AND INJURY. THEIR RELATION TO DISEASES OF THE NERVOUS SYSTEM. By Pearce Bailey, A. M., M. D., Consulting Neurologist to St. Luke's Hospital, New York, etc. D. Appleton & Co. 1898.

About half of this book is devoted to general considerations, such as methods of examination, previous history of patients, and to descriptions of various organic diseases of the nervous system, which may result from injuries, such as epilepsy, general paralysis of the insane, tabes, progressive muscular atrophy and paralysis agitans. This portion of the book might have been greatly condensed, or, indeed, omitted altogether; for to the neurologist there is nothing contained in it which is not well known, and the general practitioner who has at hand a text-book on nervous diseases is already supplied with the information which it gives. The latter half of the book, especially the chapters dealing with traumatic neurasthenia, hysteria, unclassified forms of nervous disorders, and with the vexed questions of malingering, contain the meat of the work. These chapters fairly well

represent the views of American neurologists upon these most important and much-debated questions, and their perusal would certainly prove helpful to many; especially to those surgeons ignorant of the neurologic standpoint, and who hold to the view that all traumatic nervous affections immediately clear up as soon as a "settlement" has been made.

It need hardly be added that the last word on this subject has not been spoken; but Dr. Bailey is deserving of thanks for placing in book-form many facts and opinions which have been heretofore widely scattered in medical literature.

T. D.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City. In Twenty Volumes. Volume XIV., "Infectious Diseases." New York: William Wood & Company. 1898.

The fourteenth volume of this widely and favorably known series is devoted to infectious diseases, and must prove of greatest interest and profit to the reader because of the everyday importance of the subject considered.

A great part of the work includes infections with which an American physician must contend at all times—and certain others of great importance, but not of such common interest.

As stated in the title-page, this volume (in harmony with its companion volumes) is the work of "leading authorities of Europe and America," and, perhaps, better could not be done here than to merely present the names of the writers, and to mention their special chapters.

F. Forchheimer, of Cincinnati, the chapters on Scarlet Fever and German Measles; Dawson Williams, of London, Measles; Joseph O'Dwyer and Nathaniel Read Norton, of New York, Whooping Cough; A. Jacobi, of New York, Cholera Infantum; Theodor Rumpf, of Hamburg, Cholera Nostras and Asiatic Cholera; Sir Joseph Fayner, Bart., of London, Dengue; A. A. DeAzevedo Sodre, of Rio de Janeiro, Beri Beri; A. Netter, of Paris, Miliary Fever; David Bruce, of the British Army, Malta Fever. These are names for the most part familiar to every reader of medical literature, and which carry the authority of knowledge of the things spoken of.

The subject matter is well arranged, and is placed before the reader in a manner calculated to subserve the best interests in giving well-prepared information briefly and systematically.

The history, etiology, pathology, symptoms, complications, diagnosis, prophylaxis, and treatment of each disease are discussed fully as may be, and, when important in certain diseases, the

geographical distribution, sequelæ, differential diagnoses, etc., are included as well. The work being arranged under these special heads, upon which the physician might wish to refresh himself or to acquire new knowledge, it is comparatively easy to turn at once to the desired portions.

Certainly this volume of Twentieth Century Practice is a most desirable one; a practical, scientific work for which every general practitioner will find almost daily use, and which will prove of great value. Such diseases as scarlet fever, measles, whooping cough, cholera infantum, etc., are represented on every visiting-list, and no practitioner is so experienced or learned as to be in position to ignore any aid of which it is possible to avail himself, which makes him better fitted to successfully cope with them.

H. C. W.

NEW BOOKS.

A Compend of Diseases of the Skin. By Jay F. Schamberg, A. B., M. D., Associate in Skin Diseases, Philadelphia Polyclinic, etc. With 99 Illustrations. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898.

Hay-Fever and Its Successful Treatment. By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia, etc. Price, \$1.00 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

Diseases of the Nervous System. A Handbook for Students and Practitioners. By Charles E. Beevor, M.D., London, F. R. C. P., Physician to the National Hospital for the Paralyzed and Epileptic, etc. With Illustrations. Price, \$2.50. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1898.

Yellow Fever. Clinical Notes. By Just. Toulatre, M. D. (Paris). Former Physician-in-Chief to the French Society Hospital, New Orleans, etc. Translated from the French by Charles Chassaing, M. D., President New Orleans Polyclinic, Editor New Orleans Medical and Surgical Journal, New Orleans. New Orleans Medical and Surgical Journal, Ltd. 1898.

Atlas of Legal Medicine. By D. E. Von Hofman, Professor of Legal Medicine and Director of the Medico-Legal Institute at Vienna. Authorized Translation from the German. Edited by Fredrick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York, etc. Assisted by Aloysius O. J. Kelly, M. D., Instructor in Physical Diagnosis, University of Pennsylvania, etc. 56 Plates in

Colors, and 193 Illustrations in Black. Price, \$3.50, net. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

Conservative Gynecology and Electro-Therapeutics. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. Third Edition, Revised, Rewritten, and Greatly Enlarged. By G. Betton Massey, M. D., Physician to the Gynecic Department of Howard Hospital, Philadelphia, etc. Illustrated with Twelve Full-Page Original Chromo-lithographic Plates in Twelve Colors, Numerous Full-Page Original Half-tone Plates of Photographs taken from Nature, and many other Engravings in the Text. Royal Octavo. 400 pages. Extra Cloth, Beveled Edges, \$3.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.

A System of Practical Medicine. By American Authors. Edited by Alfred Lee Loomis, M. D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M. D., Professor of Medicine in the Cornell University Medical College, New York. In four imperial octavo volumes. Volume IV.—Diseases of the Nervous System and Mind; Vasomotor and Trophic Disorders; Diseases of the Muscles; Osteo-Malacia; Rachitis; Rheumatism; Arthritis; Gout; Lithæmia; Obesity; Scurvy; Addison's Disease. 1099 pages, 95 engravings, and 8 full-page plates in colors and monochrome. For sale by subscription. Per volume, Cloth, \$5.00; Leather, \$6.00; Half Morocco, \$7.00. Lea Brothers & Co., Publishers, Philadelphia and New York. 1898.

The Governor of Pennsylvania, himself a soldier, showed his appreciation of the importance of sending forward properly equipped medical officers with the troops, by appointing two of the best-known physicians of the Keystone State to serve with an army surgeon as a board of examination, to pass upon the professional fitness and standing of all medical officers commissioned by Governor Hastings. The civilian appointees were Dr. William Pepper, of Philadelphia, and Dr. William S. Foster, of Pittsburgh. The board has completed its work, having recommended fifty-five candidates for positions as surgeons and assistant surgeons of Pennsylvania volunteers. What a pity New York did not adopt a similar plan! —(Buffalo Med. Journal.)

Official Communications.

REPORT OF DELEGATE TO DELAWARE STATE MEDICAL SOCIETY.

The annual meeting was held at Wilmington on June 14, 1898, under the presidency of Dr. P. W. Tomlinson, of Wilmington, and was well attended. The President's address dealt with the efficiency of the medical law of 1895, which created a Medical Council and State Boards of Medical Examiners, similar to its prototype, the Pennsylvania Act of 1893.

The election of officers resulted in the selection of Dr. B. L. Lewis as President and Dr. Frank Belville as Secretary. After the morning business session, at which a number of new members were elected, and some papers read, a delightful dinner was given. This was followed by the reading of other scientific papers, thus completing the program of the day. Most of the communications were on obstetrical and gynecological subjects and elicited active discussion. The delegate from the Medical Society of the State of Pennsylvania was officially presented to the society, and invited to take part in the discussions. The society adjourned to meet in Wilmington next year.

John B. Roberts, Delegate.

ASSESSMENTS OF COUNTY SOCIETIES FOR 1898; NAMES OF TREASURERS AND NUMBER OF MEMBERS.

Allegheny County: Membership	330
E. W. Day, Treasurer, 820 Penn Ave., Pittsburg.	
Assessment	\$577 50
Armstrong County: Membership	29
T. M. Allison, Treasurer, Kittanning.	
Assessment	50 75
Beaver County: Membership	33
T. P. Simpson, Treasurer, Beaver Falls.	
Assessment	57 75
Bedford County: Membership	16
W. P. S. Henry, Treasurer, Everett.	
Assessment	28 00

Berks County: Membership	77
A. S. Raudenbush, Treasurer, Reading.	
Assessment	134 75
Blair County: Membership	52
W. S. Ross, Treasurer, Altoona.	
Assessment	91 00
Bradford County: Membership	38
F. G. Newton, Treasurer, Towanda.	
Assessment	66 50
Bucks County: Membership	51
F. Swartzlander, Treasurer, Doylestown.	
Assessment	89 25
Butler County: Membership	35
N. M. Hoover, Treasurer, Butler.	
Assessment	61 25
Cambria County: Membership	50
F. Schill, Sr., Treasurer, Johnstown.	
Assessment	87 50
Carbon County: Membership	24
J. B. Tweedle, Treasurer, Weatherley.	
Assessment	42 00
Center County: Membership	21
G. F. Harris, Treasurer, Bellefonte.	
Assessment	36 75
Chester County: Membership	45
Wilhemina T. Nelson, Treasurer, West Chester.	
Assessment	78 75
Clarion County: Membership	30
I. J. Wireback, Treasurer, St. Petersburg.	
Assessment	52 50
Clearfield County: Membership	27
P. L. Hoover, Treasurer, Mahaffey.	
Assessment	47 25
Clinton County: Membership	22
J. B. McCloskey, Treasurer, Mill Hall.	
Assessment	38 50
Columbia County: Membership	28
W. M. Reeber, Treasurer, Bloomsburg.	
Assessment	49 00
Crawford County: Membership	24
C. C. Laffer, Treasurer, Meadville.	
Assessment	42 00
Cumberland County: Membership	22
P. R. Koons, Treasurer, Mechanicsburg.	
Assessment	38 50
Dauphin County: Membership	57
E. H. Coover, Treasurer, Harrisburg.	
Assessment	99 75
Delaware County: Membership	43
D. W. Jefferis, Treasurer, Chester.	
Assessment	75 25

Elk County: Membership	18	McKean County: Membership	34
E. J. Russ, Treasurer, St. Mary's.		J. C. Walker, Treasurer, Bradford.	
Assessment	31 50	Assessment	59 50
Erie County: Membership	47	Mercer County: Membership	33
Ira J. Dunn, Treasurer, Erie.		F. G. Byles, Treasurer, Fredonia.	
Assessment	82 25	Assessment	57 75
Fayette County: Membership	49	Mifflin County: Membership	13
Levi S. Gaddis, Treasurer, Uniontown.		A. S. Harshberger, Treasurer, Lewistown.	
Assessment	85 75	Assessment	22 75
Franklin County: Membership	46	Montgomery County: Membership	53
D. Maclay, Treasurer, Chambersburg.		S. N. Wiley, Treasurer, Norristown.	
Assessment	80 50	Assessment	92 75
Greene County: Membership	16	Montour County: Membership	15
T. H. Sharpnack, Treasurer, Jefferson.		P. C. Newbaker, Treasurer, Danville.	
Assessment	28 00	Assessment	26 25
Huntingdon County: Membership	24	Northampton County: Membership	63
G. G. Harmon, Treasurer, Huntingdon.		Amos Seip, Treasurer, Easton.	
Assessment	42 00	Assessment	110 25
Indiana County: Membership	27	Northumberland County: Membership ..	23
A. T. Rutledge, Treasurer, Blairsville.		W. W. Moody, Treasurer, Sunbury.	
Assessment	47 25	Assessment	40 25
Jefferson County: Membership	48	Perry County: Membership	25
A. F. Balmer, Treasurer, Brookville.		D. B. Milliken, Treasurer, Landisburg.	
Assessment	84 00	Assessment	43 75
Juniata County: Membership	13	Philadelphia County: Membership	740
I. G. Heading, Treasurer, McCallisterville.		Collier L. Bower, Treasurer, 1937 Vine St., Philadelphia.	
Assessment	22 75	Assessment	1295 00
Lackawanna County: Membership	84	Potter County: Membership	10
L. M. Gates, Treasurer, Scranton.		A. H. Glover, Treasurer, Ulysses.	
Assessment	147 00	Assessment	17 50
Lancaster County: Membership	108	Schuylkill County: Membership	79
Geo. H. Rohrer, Treasurer, Lancaster.		David Taggart, Treasurer, Frackville.	
Assessment	189 00	Assessment	138 25
Lawrence County: Membership	21	Snyder County: Membership	10
R. D. Wallace, Treasurer, New Castle.		J. O. Wagner, Treasurer, Beaver Springs.	
Assessment	36 75	Assessment	17 50
Lebanon County: Membership	14	Somerset County: Membership	25
H. H. Roedel, Treasurer, Lebanon.		W. S. Mountain, Treasurer, Confluence.	
Assessment	24 50	Assessment	43 75
Lehigh County: Membership	42	Susquehanna County: Membership	28
E. H. Dickenshied, Treasurer, Allentown.		E. R. Gardner, Treasurer, Montrose.	
Assessment	73 50	Assessment	49 00
Luzerne County: Membership	76	Tioga County: Membership	28
Maris Gibson, Treasurer, Wilkesbarre.		C. W. Webb, Treasurer, Wellsboro.	
Assessment	133 00	Assessment	49 00
Lycoming County: Membership	91	Venango County: Membership	25
B. H. Detwiler, Treasurer, Williamsport.		C. W. Coulter, Treasurer, Oil City.	
Assessment	159 25	Assessment	43 75

Warren County: Membership	32
John Curwen, Treasurer, Warren.	
Assessment	56 50
Washington County: Membership	43
W. R. Thompson, Treasurer, Washington.	
Assessment	75 25
Westmoreland County: Membership... ..	55
J. B. Wakefield, Treasurer, Grapeville.	
Assessment	96 25
York County: Membership	74
J. Deisinger, Treasurer, York.	
Assessment	129 50
George Benson Dunmire, Treasurer.	
C. L. Stevens, Secretary.	

Current Medicine.

THE TREATMENT OF WHOOPING COUGH BY RESORCIN.

Roskam (*Annales de la Societe Med. Chirurg. de Liege*. 1897, xxxvi, 71). Since 1890 Roskam has treated 290 cases according to the method recommended by Moncorvo and modified by himself. His method has been to make immediate application to the glottis by means of a very fine sponge of a 2 to 3 per cent. solution of resorcin, but without the previous use, as recommended by Moncorvo, of a 10 per cent. solution of cocaine, which latter frequently induces violent spasm. As a rule the treatment was begun during the first two weeks of the disease, although a number of the children had already reached the convulsive stage. Not a single child died, although severe symptoms of adynamia were present in three of the children; two cases recovered in fourteen days, seventy cases were cured before the end of twenty-five days, counting from the beginning of treatment, eighteen recovered within a month. As a rule children under one year of age recovered more rapidly, generally within eight days. In children under one year of age a 2 per cent. solution was used; in those between one and two years of age, a 2 per cent. solution was used during the first few days and later a 3 per cent. solution;

in still older children, the 3 per cent. solution was at once employed. The application was made every four hours and, where possible, once or twice during the night. After two to three days, and occasionally still earlier, a marked improvement of the digestion occurred, the children took their food with relish, and after four to five days the cough had lost its characteristic sound, the paroxysms became shorter and less severe, vomiting ceased, and the general condition improved notably. After ten to twelve days the treatment was discontinued, and when necessary was resumed after five to six days. —(Pediatrics.)

Adeps Lanae Hydrosus, U. S. P., is the official name of the purified fat of the wool of sheep. A more or less similar substance is known under the commercial name of "lanolin." It should always be called for under its official name. The fact that in nature it serves as a lubricant for the skin and wool, indicates its usefulness as a soothing and softening application. It also facilitates absorption to a greater extent than the ordinary fats or oils.

Chloral is the U. S. P. title of what is more commonly called "chloral hydrate." In spite of the high claims for many of the newer proprietary hypnotics, this remains one of the best.

Adeps Benzoinatus, U. S. P., is a better base for ointments than simple lard (Adeps). The benzoin with which it is impregnated renders it less susceptible to rancidity.

To make a normal salt solution for trans-fusion:

R Sodii carb.....gr. xv.
Sodii chlor..... 5 iss.
Aquæ..... O ij.

—(Western Medical Review.)

Codeina, U. S. P., is official only as an alkaloid—not as a salt. Chemically it is a methyl-ether of morphine.

Monthly Reports of County Societies.

REPORT OF THE FAYETTE COUNTY MEDICAL SOCIETY.

IN MEMORIAM: JOSHUA D. HAZLETT, M.D.

At a meeting of the Fayette County Medical Society, held on Jan. 4, 1898, the following resolutions were unanimously adopted:

Whereas, We have heard with deep regret of the death of Dr. Joshua D. Hazlett, which occurred at Vanderbilt, Pa., on Sept. 16, 1897;

Resolved, That in the death of Dr. Hazlett this Society has lost a valuable member, the community an intelligent physician and his family its stay and support, and that we tender his family our deepest sympathy in their bereavement.

Resolved, That the above resolutions be spread upon the minutes of the society, and a copy sent to the family of the deceased member.

*Harry J. Bell,
Levi S. Gaddis,
Committee on Resolutions.*

IN MEMORIAM: SMITH BUTTERMORE, M.D.

At a meeting of the Fayette County Medical Society, held on April 5, 1898, the following resolutions were unanimously adopted:

Whereas, It is with feelings of sorrow and regret that this society hears of the death of an esteemed member, Dr. Smith Buttermore, at his home in Connellsville, Pa., on Dec. 30, 1897.

In all his association with the members of this society, Dr. Buttermore was always courteous and affable, always having at heart the good of the society and the advancement of medical science.

Resolved, That in the death of Dr. Buttermore we have lost a valuable member, and one always ready to do his part in advancing its interests, his family a loving member and the community a good citizen.

Resolved, That this note be spread upon

the minutes of the society, and a copy sent to the family of the deceased member.

*Thomas H. White,
James B. Ewing,
Committee on Resolutions.*

REPORT FROM WASHINGTON COUNTY.

At the meeting of the Washington County Medical Society, held May 11, 1898, Dr. W. D. Teagarden, of Washington, read a paper entitled:

ATRETOMETRIA.

Dr. Teagarden said: The subject to which I shall call your attention is one upon which I shall have but little to say, inasmuch as literature upon it is not very replete and my personal experience and observation is confined to a single case. The rarity of the existence of the complete occlusion of the os uteri in labor at full term, and the consternation that comes over the physician when he finds that open door which has always heretofore greeted him on a digital examination at accouchments, now closed and hermetically sealed, is my apology for intruding on your time to-day. The history of the case is about as follows: Was called to see Mrs. W. November 15, 1896, aged about thirty-five years; multipara. Found her in the last stage of gestation with irregular but very decided pains. On making a digital examination I found, to my surprise, that I could neither find os, cervix, nor the least evidence that there had ever been either. As the vulva, vagina and pelvis were very capacious I decided to investigate further by introducing my whole hand, thinking that I might find the os high up in the sacral cavity. After sweeping my hand all around the pelvis I satisfied myself that there was no opening through which a child could be born. The entire uterus so far as it could be felt was relaxed, and during a pain presented to the touch a feeling similar to a bulging placenta. Satisfying myself that there was nothing to be done for the time being, inasmuch as the pains (I say pains be-

cause they did not seem to be contractions) were very irregular, I gave her a dose of morphine and promised to return in the morning. In the meantime, wishing to avail myself of the experience of some older physicians, I consulted Drs. Grayson and Little, who, while they treated my statement and diagnosis with respect, gave it as their opinion that when actual labor should come on that the os, which was high up and out of reach would come down and all would be well. They, however, assured me that if I should need assistance they would be at my service. The next day (Nov. 16) pains had almost ceased with no perceptible change in any other direction. I should say that at this examination I detected a small spot which seemed to the touch like a tortuous vessel arranged in a circle which probably indicated the spot where the os once was. Seeing my patient was quite comfortable, I decided to not return until notified that I was needed. I was not called again until Nov. 17, at 8 P. M., when I found the patient in hard labor and no change to be detected by examination. I gave her a hypodermic injection of atropine into the uterus through the vagina, and also smeared all parts of the womb that could be reached with ung. belladonnæ, hoping to be able to relax the parts so that the contractions which were now becoming very severe might overcome the obstruction, but all to no purpose. By conjoined manipulation I found the fundus was now contracting quite vigorously and that if something were not done before long I might have on my hands a case of ruptured uterus.

Feeling sure that nothing short of an operation would avail anything, I now sent for Drs. Grayson and Little, who arrived about 10 P. M. After consulting and agreeing that an operation was the only legitimate procedure, we decided to give her an anodyne, and, if possible, a little rest before proceeding to operate. We waited about two hours, in the meantime trying, at different times, to force our finger through where we

thought the os ought to be, but all our efforts were futile. We now proceeded to operate. After placing our patient under the influence of an anesthetic and wrapping a straight-pointed bistoury to within about one inch of its point, we made an attempt to incise at a point which indicated to us the probable site of the os, but it was situated so high in the pelvis and also to the left side, and the lower segment of the uterus was so yielding, owing to an abundant amount of amniotic fluid which prevented the vertex from descending, that I found it was not practicable to operate in that way, as the parts would recede from the knife like a gum ball.

We next tried to puncture with a grooved director, hoping to make a small opening so as to drain off the amniotic water and allow the head to descend, but the site we had selected was so high in the posterior part of the pelvis that I could not make pressure within the line of the axis of the uterus sufficient to puncture without fear of doing harm. Our next resource (and the one which was successful) was a pair of blunt-pointed scissors with a very sharp-cutting edge clear to the point. I now introduced the scissors and Dr. Grayson made firm pressure downward on the uterus, and opening the scissors I pressed them firmly against the site of the os, and waited for a pain. When the pain came the lower segment of the uterus protruded between the blades of the scissors and I snipped the most dependent portion, making an incision about one-half inch long, and to our great joy the amniotic fluid gushed out. The opening thus made was sufficient to admit the index finger, and we now began the process of dilating the opening we had made. This we found to be quite a difficult task, each of us taking turns for about two hours. When we had produced sufficient dilatation to admit the introduction of the forceps we adjusted them without much difficulty, but it required about two hours to deliver her after the application of the forceps. By

four o'clock we had her delivered of a large and living child, and three physicians started for home tired and sleepy, but wiser from having had an experience which neither had ever had before. Our patient made an uneventful recovery. The child died the second or third day of umbilical hemorrhage, but the mother was around in the usual time. Her temperature never exceeded 99 degrees. As to the etiology of this particular case I am not able to say. Patient had given birth to an illegitimate child about nine years previous. Her labor at that time was a very difficult one, requiring the skill of two good physicians. After a very tedious labor they delivered her with the aid of the forceps of a still-born child. There are many difficulties which may bring about such conditions. "It may be caused by the superficial union of the opposing mucous surfaces through the medium of inspissated epithelium or of new connective tissue resulting from adhesive inflammation produced by vaginitis or cervical endometritis." It may be a sequel of gonorrhœa. In my judgment in this particular case it was due to post partum ulceration and subsequent agglutination of the mucous surfaces, resulting from injuries produced at her first confinement. She suffered from dysmenorrhœa ever after her first confinement, which makes it probable that the os was almost occluded and that when impregnation took place the second time and menstruation ceased, the pin-hole opening (as it were) became closed. Another evidence that this was the probable cause rests in the fact that the patient has been well and hearty since her last confinement. Her menstrual periods have recurred regularly and she has not had dysmenorrhœa as she had after her first confinement.

Jan. 26, 1898, I was called to attend Mrs. W. in confinement again, but being sick and unable to go, Dr. J. H. Little kindly consented to attend her. He informed me that her labor was easy and natural. She gave birth to twins in about an hour after his ar-

rival. The placenta, however, was adherent, and it required considerable labor on the part of the physician before it could all be detached. One child was dead-born. The mother and other child are doing well. I am fully aware that many of more mature judgment and riper experience may scan this commonplace article with little or no interest, but it is not intended for them, but by special request I submit it for publication, hoping that it may prove interesting to those whose personal experience is limited in such rare anomalies.

J. A. McKean, Secretary.

REPORT OF THE JUNE MEETING OF THE ALLEGHENY COUNTY MEDICAL SOCIETY.

At the regular meeting, held Tuesday, June 21, 1898, Dr. G. W. Hiatt read a paper on "Strangulated Hernia and Obstruction of the Bowels; Importance of Quick Operative Interference, with Two Autopsies and Reference to Other Cases."

The writer dwelt particularly on prompt operation, and reported several cases diagnosed as intestinal obstruction laying particular stress upon fecal vomiting.

He said in conclusion: "In general, then, I may state, that it is all-important to act with decision. First, be reasonably sure of your diagnosis, then operate at once. Delay means death in the vast majority of cases."

DISCUSSION.

Dr. R. W. Stewart: I think it necessary to divide cases of intestinal obstruction into two classes, in order that errors may not be made, viz., obstruction due to mechanical causes and obstruction due to other than mechanical causes. Sometimes the obstruction is due to twisting, to adhesion, or to the bowel passing through an opening in the mesentery; occasionally the cause is from an agency outside of the intestine itself. Where the cause is a mechanical one, operation is demanded and it is unsafe to wait. But there are cases where an operation

would be highly injudicious, and they are the adynamic cases where there is a paralysis of the bowel itself. I remember a case of marked obstruction of the bowel, due to the passage of a renal calculus, subsiding the moment the calculus escaped. Another case of obstruction came on during a pneumonia, and subsided when the crisis of the pneumonia was passed. I have seen probably half a dozen cases of obstruction not due to mechanical causes, nor to septic peritonitis, where an operation would have done harm. It is usually easy to tell which cases require operation and which do not. Mechanical obstruction increases intestinal peristalsis, and you can often see the bowel moving—certainly you can feel and hear it. This important symptom, however, is often clouded by the use of morphine, and it may be difficult to arrive at a conclusion. In the other cases there is an absence of peristalsis. The two classes are entirely distinct. In one operation is imperative; in the other an operation may do harm, except in cases of general septic peritonitis, where it may be useful by washing and draining the peritoneal cavity.

Dr. F. Blume: I should like to ask Dr. Hiatt upon what the diagnosis of mechanical obstruction was based in the first case. Was there increased peristalsis?

Dr. Hiatt: The diagnosis was based upon the vomiting of fecal matter.

Dr. Blume: Vomiting of fecal matter, though important, is not always a reliable symptom of mechanical obstruction. I have seen fecal vomiting in cases of simple obstinate constipation. On the other hand, last fall, I observed a case of mechanical ileus in which fecal vomiting did not occur. A patient upon whom I had done a vaginal hysterectomy presented the symptoms of mechanical obstruction the third day after the operation. The fourth day vomiting ceased and the patient was able to take and retain nourishment. Her general condition, however, did not improve. The diagnosis of mechanical obstruction appeared

to be certain. On the fifth day I went to the hospital intending to open her abdomen, but the patient had had three good stools since my last visit. This certainly looked very favorable, and I decided to wait. The following morning the woman was in profound collapse and died in the afternoon. At the post-mortem examination we found that two coils of the ileum, near the ileo-cæcal valve, had become adherent, producing a flexure of the intestine. It is a notable fact that fecal vomiting did not occur. The obstruction was not complete, at least not on the fifth day when the bowels moved. This action of the bowels and the cessation of vomiting induced me to postpone surgical interference.

I think we all agree that a prompt diagnosis is of the greatest importance, the life of the patient depending upon it. As soon as the diagnosis of mechanical ileus is established, surgical interference is the only method of treatment, for patients with this form of intestinal obstruction die unless operated upon before the vital forces are exhausted.

In adynamic ileus, as in those of cases of obstinate constipation which we see so often after operations involving the abdominal cavity, peristalsis is absent or greatly diminished. In dynamic and mechanical ileus peristalsis is increased, and this condition persists for days until the bowels become over-distended and paralyzed when it ceases. An exact diagnosis in such advanced cases is very difficult. About one year ago, I saw, in consultation, a child which had been suffering from intestinal obstruction for several days. The abdomen was enormously distended, peristalsis hardly perceptible, vomiting constant and the pulse rapid and feeble. When I operated, I found it to be a case of volvulus. The jejunum was twisted around its axis at the point where it passes from below the transverse colon. Reduction was easy, the bowel, though congested, was apparently healthy, but the child died on the table. The

history of this case was indicative of a mechanical obstruction, but, at the time when I saw it, a definite diagnosis could not be made. This patient could certainly have been saved by an early operation.

Lavage deserves recommendation in cases of fecal obstruction, and perhaps in some types of adynamic ileus. Lavage was introduced by Kussmaul—I think in 1884—as a method of treatment for intestinal obstruction, and I was one of the first in this country to resort to it. I attended at that time a man whose bowels had not moved for five or six days. It seemed to be a case of fecal obstruction which did not yield to the usual treatment. The man was nine or ten days without a bowel movement when I received the *Berliner Klinische Wochenschrift* containing Kussmaul's article on irrigation of the stomach. I went at once to my patient, washed his stomach out and told him I would see him again in two hours. When I returned, I found him sitting up in bed. He stated that I had hardly left the house when his bowels commenced to move. He made a rapid recovery.

Dr. Hiett: I must contend that fecal vomiting is a marked diagnostic symptom though not pathognomonic. Once having made your diagnosis, I maintain the proper treatment is prompt operation, and the same rule holds good with reference to many other abdominal troubles, appendicitis, for example. Operative procedures must not be delayed.

HEREDITARY CEREBELLAR ATAXIA (Nonne-Marie.)

Dr. Theodore Diller presented a case of hereditary cerebellar ataxia (Nonne-Marie), and spoke as follows:

I saw this boy with Dr. Ahlers on the 11th of March. He is almost four years of age. Up to the age of two he was apparently perfectly normal, when he began to stagger, and, when about two and a half years of age, an internal squint appeared.

These symptoms have gradually increased. He has no headaches nor convulsions;

there has been no vomiting at any time, and no paralysis. His general appearance is healthy. He has a remarkably ataxic gait, walking with his feet wide apart. The pupils are large and react well to light and accommodation; the eye grounds are normal. The child gives no evidence of failure of vision. Dr. Curry, who examined the eyes, states that the squint is non-paralytic. There is some ataxia of the arms, but it is not nearly so noticeable as that in the legs. The knee-jerks are exaggerated—the right more than the left. His intelligence and memory are good, but he has a marked speech defect—he speaks in a slow, drawling fashion.

The three prominent symptoms, then, are staggering, squint and speech defect. When I first saw the boy the thought came to me at once of a brain tumor, but upon further examination I found the cardinal symptoms absent.

There is a slight tremor in the hands at times. There is ankle clonus. The defect of speech is not the syllabic speech of insular sclerosis, but it is a slow, drawling speech, very difficult to describe. The diagnosis, I believe, rests between Friedrich's ataxia, insular sclerosis and hereditary cerebellar ataxia. I think the marked ataxia excludes insular sclerosis, and that the increased knee-jerks exclude Friedrich's ataxia. There have been very few cases of hereditary cerebellar ataxia reported; one by Nonne and one by Marie, constitute the chief contributions to the subject. One showed a wasting—a certain amount of general wasting and degeneration of the cerebellum. Friedrich's ataxia and this affection are, no doubt, closely allied, depending upon whether the cord or the cerebellum is affected. They are probably developmental defects.

The developmental defects merit more study, and I think their occurrence is more frequent than many suppose. A considerable number of chronic degenerative nervous

affections are really due to developmental defects, as, for instance, the dystrophies—the family form of amyotrophic idiocy, etc.

DISCUSSION.

Dr. Glendon E. Curry: My first impression was that the strabismus was of a paralytic form, but further investigation proved it to be non-paralytic; the intrinsic ocular muscles presented no abnormality whatever. The pupils responded promptly to light. The strabismus being concomitant and the eye grounds normal, led to the conclusion that the ocular condition was an associated one, and had no relationship to the disease itself.

I. CONVULSIONS FOLLOWING DEPRESSED FRACTURE OF THE SKULL. II. CYST OF THE SPERMATIC CORD. III. FOREIGN BODIES (Three Teaspoons) REMOVED FROM THE SMALL INTESTINES.

Dr. R. W. Stewart reported cases as follows, and presented the specimens:

Case I. Here is a section of a fractured skull with a depression of the inner plate which penetrated the brain and the lateral sinus, and in detaching it, the lateral sinus ruptured. The patient from whom this was removed had convulsions every day—sometimes a number—for several years. Following the operation, he had perfect freedom from convulsions for about a month. Then he had a series of six or eight within twenty-four hours; then a cessation. He then passed out of my observation. This is often the unfortunate sequel of this operation. An accident occurs to the skull, convulsions begin, a habit is created, and even the complete removal of the original cause does not permanently arrest the convulsions.

Sometimes an operation which does not remove the cause will temporarily arrest the seizures. About three weeks ago I made an exploratory operation on the skull of a boy. The skull had been fractured and subsequently trephined. My operation was simply to determine whether anything had

been overlooked in the previous operation to account for the convulsions which were of daily occurrence. My examination was very complete. Everything had been done at the previous operation that could have been done. The boy was kept in bed for only two or three days. The convulsions immediately ceased, and he was discharged from the hospital. I have no doubt, however, but that they will recur.

Case II. About eight years ago, the man from whom this cyst was removed, was struck by an apple over the testicle or spermatic cord. This was followed by a growth in the cord which gradually enlarged until it became about the size of his fist, when, while straining at stool, it suddenly disappeared. The tumor reappeared in a few months, not only in the scrotum, but also in the abdominal cavity, and gradually increased in size for eight years, until it extended up to the ensiform cartilage. It had all of the abdominal characteristics of ovarian cyst in the female. Fluctuation could be easily detected, extending from the scrotum to the abdomen, demonstrating the continuity of the sac. I passed a large needle through the scrotum into the cyst and removed between 19 and 20 pints of fluid, which weighed 20 pounds. Two weeks after I removed the cyst through an incision six inches long, extending over the inguinal canal. I dissected the cyst free from its scrotal connections, and then evacuating it, I succeeded in removing it from the abdomen by stripping it of its peritoneal covering, as it was retro-peritoneal. It had pushed the peritoneum upwards and forwards and pressed backwards on the rectum, producing an obstruction of the bowel which nothing seemed to relieve. After the cyst was removed, a large fold of the peritoneum hung down out of the wound. I was at a loss for some time to know the exact origin of the cyst, and thought it might be a cystic testicle resembling a cystic ovary, especially as the contents resembled very closely the fluid of an ovarian cyst and was unlike the

straw-colored hydrocele fluid. On a closer examination, however, I discovered the testicle practically destroyed but easily recognized, in the posterior wall of the sac. This case was evidently cyst of the spermatic cord, which extended into the abdominal cavity to an enormous extent.

Case III. On May 2d, Mrs. L. L., aged 22, residing in Ohio, was admitted to the Mercy Hospital. She gave a history of having been confined in an institution in Columbus about four months previous on account of suicidal mania. She had tried to jump out of the window of her room while in this institution, and admitted to me that she had swallowed two spoons and a thimble. I hesitated about believing her story, but upon examination I found a hard resisting inflammatory mass above the pubic bone, which had apparently a solid substance within it. The woman was suffering from difficulty in voiding her urine and in having her bowels moved. I had a skiagraph taken, and found something in the picture which resembled a spoon. On May 5th I made an incision over the center of the inflammatory exudate, and opened the intestine which was adherent to the parietal peritoneum. Passing my finger into the intestine, I felt the end of a spoon, caught it with a pair of forceps and pulled it out. Passing my finger in again, I discovered a second spoon, lying parallel to the first. A third spoon was also found lying in nearly a transverse direction to the other two. The wound was packed with gauze and the patient sent to bed. Her history afterwards was uneventful, except that she had a fecal fistula, which closed in a few weeks. Now, as to the exact location of those spoons I am unable to say, except they were in the small intestine, probably in the lower half, not far from the ileo-cæcal valve, judging from their position and the character of the discharge from the fistula, which was not such as we get from the large bowel. I also had the nurse fill the large bowel with water to the fullest extent, to

see if any of the fluid would escape from the fistula, but it did not. They certainly were not in the stomach. I told the patient that we found three spoons, but no thimble. She asked if we found any hair pins or needles. We found nothing, however, but the spoons. How the woman could swallow such an object as a spoon is certainly a puzzle. It is no less puzzling how they could pass out of the stomach, through the pylorus, and into the small intestine. We all know that knives, pins, needles and even scissors, have been found in the stomach, but it is exceedingly rare to find such objects in the intestines.

Here are the teaspoons (spoons exhibited), three in number, each six inches in length, much tarnished and coated with lime salts as a result of their detention in the alimentary tract.

DISCUSSION.

Dr. J. D. Thomas: I have here a half-dollar which I wish to compare with the width of this spoon. Some time ago I had a patient who swallowed a half-dollar. He had it in his mouth, and while laughing swallowed it.

About a year afterwards he vomited it, thus proving that it had remained in his stomach all this time. I argued from this that the pylorus was too small to permit the passage of the coin, but on comparing its transverse diameter with that of the bowl of the spoon, I find the latter is greater; so I cannot hold that theory any longer.

Dr. T. M. T. McKennan: The first case spoken of by Dr. Stewart illustrates, as he has said, that brain surgery does not offer much hope of permanent relief if the injury is of long standing. The epileptic habit is nothing more or less than an evidence of extensive, widespread change in the brain cells, starting at the original point of injury, and spreading, and I think this is why the removal of the primary cause does not result in a cure. The results of brain surgery are certainly often disappointing, and this includes operation for brain tumors and ab-

sciences as well. I recollect a number of years ago, when the matter of operation for removal of brain tumors was first talked about, of seeing the results of some cases of Dr. Horsley's, where there had been removal of brain tumors. His results were very much talked about, but in reality the last state of the patient was oftentimes worse than the first.

Dr. Theo. Diller: The element of time is exceedingly important in the matter of operations in cases of epilepsy. In traumatic epilepsy the sooner the operation is performed after the first fit, the better the prognosis. If the epileptic habit is thoroughly formed, operation offers little hope of cure, no matter whether the cause be removed or not. There are two things which should be remembered regarding these cases: First, that given a series of epileptic convulsions, caused by bone pressure, we may remove the cause without curing the disease; and, second, that any sort of an operation may stop the convulsions for a time, but little dependence must be placed upon this temporary relief. About three or four years ago, Dr. Buchanan trephined a patient of mine who was suffering from psychical epilepsy of traumatic origin. There was a history of a blow on the forehead. He had no motor explosives but a psychical equivalent with automatic movements. For a year and a half after the operation there were no convulsions, and the patient and friends were very hopeful of a permanent cure. Finally the fits returned. He now suffers from both psychical and motor epilepsy, and is much worse than he ever was.

In the literature of psychiatry we find many cases recorded where in post-mortem examinations of the insane there have been found an astonishing variety and number of different materials in the stomach. I do not recollect, however, of as large a foreign body as a spoon having been found in the intestines.

J. I. Johnston,
Editorial Committee.

Official Transactions.

ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

A meeting of the board was held in Pittsburgh, May 20, 1897, for organization. There were present at this meeting C. L. Stevens, I. C. Gable, W. T. Bishop, T. P. Simpson, and M. A. Rhoads. I. C. Gable was elected president, and M. A. Rhoads secretary. After the transaction of the ordinary routine business, the board adjourned to meet at the call of the president.

A special meeting was held in Reading, June 24, 1897. The members present were T. P. Simpson, Henry Beates, Jr., R. Armstrong, I. C. Gable, M. A. Rhoads, W. M. Weidman (ex-officio), and the treasurer, G. B. Dunmire, by invitation. At this meeting a contract was made with Adolph Koenig to publish the Transactions in journal form in keeping with the resolution adopted by the society at the meeting in Pittsburgh. The salary of the secretary of the society was fixed at \$300 per year; that of the treasurer at \$150 per year, and that of the chairman of the Committee on Publication at \$150 per year. The annual assessment on the several county societies was fixed at \$1.25 per member.

A third meeting of the board was held in Philadelphia on October 20, 1897. The members present were Henry Beates, Jr., T. P. Simpson, R. Armstrong, J. H. Packard, W. T. Bishop, I. C. Gable, and M. A. Rhoads. At this meeting the salary of the secretary of the Board of Trustees and Judicial Council was fixed at \$50, to begin with the adjournment of the Board of Trustees, following the annual meeting of the society. H. L. Andrews was elected official stenographer for the society at a salary of \$25 per day and expenses.

M. Albert Rhoads, Secretary.

MEMBERS IN ATTENDANCE AT THE MEETING IN LANCASTER, MAY 17, 18 AND 19, 1898.**ALLEGHENY COUNTY SOCIETY.**

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Addresses.

[Delivered at the Meeting of the Medical Society of the State of Pennsylvania at Lancaster, May 18, 1898.]

ADDRESS IN MENTAL DISORDERS.

BY B. H. DETWILER, M.D., OF WILLIAMSPORT.

Pennsylvania has an insane population of over 10,000 in its institutions, and over 1,800 unprovided for. Its annual increase is of from 300 to 500. They are supported at a weekly expense of \$3.75. To accomplish this, millions have been expended in erecting hospitals. The cause of this enormous degeneration is not from being the slumping ground of Europe's most undesirable inhabitants, nor the stern competition of American life, but the defective marriage laws that govern us. We permit this degeneracy to continue by legalizing the

marriage of persons totally unfit for the production of sound offspring. These children again bear offspring according to the laws of heredity, like producing like, till the undesirable type finally eliminates itself in sterility; but this natural process of cure, entails such a burden of degenerates upon the State, that relief is indispensable in a more rational plan. If the propagation of the insane by legalized marriage is unquestioned, then the modification of the marriage law is the remedy.

In demonstrating this point, the history of Mr. A. and brother, will be stated. They were farmers of good family history, with fine physique, were married about 1790, to sisters, daughters of a farmer, said to have been exceedingly handsome, well developed women. The girls had two defective brothers, who worked on the farm, but were of a low grade of intelligence; would eat snails

or anything of that kind, and they were never married. These families then lived in the great county of Lycoming. The elder brother had 13 children, one died in infancy, another boy was so defective that he was never married. Six boys and five girls were married to representative people in a farming community, and had 55 children, 24 of whom were defective. The younger brother had three defective children that were never married. The larger number defective were the descendants of the girls. One of my friends married one of these girls; they had seven boys who were so defective that they could not be taught the amenities of the table, and were the cause of distress and mortification when visited by his friends in his western home.

A third sister married an exceptionally bright man; they had five children; three were so defective that they never married. Two children, a boy and a girl were very bright. These three sisters had 21 children, 7 of whom were defective, and they never married. Their living progeny numbered 60, and are located between the Atlantic and Pacific, and it is logical to assume that their descendants are furnishing their quota of insane and imbecile for State wardships. Another illustration is that of a family who had a daughter married about 60 years ago; after marriage she was at intervals insane. She had three children, remarkably bright and handsome. The boy died insane about 22. The elder sister became insane with suicidal tendencies, after graduating with honor from a young ladies' school. She recovered, with the consciousness of all her hallucinations, was married at 24 to a bright man, who is distinguished in literature. They had six children, all born in an asylum; during her lucid intervals, she was exceedingly bright and lovely. She was expected to recover fully after the menopause, but these expectations were unfortunately never realized, and she is spending her declining years in the sheltering care of the hospital where her children were born,

instead of the lovely home that awaited her which she honored, in her lucid intervals, with her wit and beauty. Her husband and children seldom visited her, as it awakened such sad memories in her desolate life. Three of her daughters have inherited their mother's sad legacy, and have had hospital protection; one left home without the knowledge of her father for this retreat with her mother before her reason was entirely dethroned; a brother, after graduating in medicine, developed it, and a sister died at 18. A sad record of a most lovely and gifted family. A younger sister of this woman married my college classmate; she had two children equally gifted. After the death of her husband she became mildly insane. During each gestation she developed insanity. Her son inherited this disease, became insane, but finally recovered and now fills a sphere of honor and usefulness; his sister escaped this incubus. Comment is useless. The distinguished Dr. Robert Archer, of Hartford co., Md., fully recognized this terrible scourge of heredity. In 1800 he had two wards, a brother and sister, with this family trait. He impressed them so strongly with the danger of transmitting their hereditary insanity, that they never married. The sister was such a lovely girl, that offers of marriage were refused in more than fifty cases, which the good old doctor was cognizant of. They both died at an advanced age at an asylum, totally insane, and the family was extinct. An equally fortunate termination of two families in the State of New York, with hemophilia, represented by a girl in each family, was terminated by the bravery of the girls in never marrying. These isolated cases confirm the theory that State legislation is essential in preventing the continuance of this terrible scourge of humanity. Having demonstrated one of the causes of this excessive preponderance of the degenerative classes, their care will demand attention. When the cause is due to cerebral exhaustion, there is a probability of a large percentage of recoveries, but when

due to heredity or the sequel of specific disease, the recovery is the exception, not the rule, as shown in the large accumulation of the derelicts in our vast State hospitals. In the wards of the State Hospital of the Insane, at Danville, there are 1,046 inmates, and there is no expectation of more than 5 1-5 per cent. of recoveries. Taking this institution, which I have had the honor of serving continuously for the past quarter of a century as a trustee, as a basis, and also for the five State hospitals, which had in 1896, 5,596 inmates, with an annual increase of 273 in 1896, would give the total number of insane at the present time in these hospitals of 6,142—about 1,800 above their normal capacity. The annual increase ranges from two to five hundred, sufficient to fill a large hospital every three years.

These unfortunate State wards, having no habitation, are cared for in jails, poor houses and where they can elsewhere be stored. They fill to repletion the above crowded wards of the State hospitals, and become permanent charges. The majority are descendants of the defective class, and if not improved in a year after admission, can be positively classed as chronic insane and incurable, as the average of recoveries does not exceed one per cent. This class constitutes those with hereditary history of insanity, syphilis and alcoholism. Those who have cerebral exhaustion due to mental over-strain and not to one of these three causes, heredity, syphilis, or alcoholism, and are treated at an early stage of the disease, give a percentage of from 75 to 80 of recoveries, but if they are held at home or in county hospitals, under the care they would receive, become chronic insane and have a record of 1 to 5 1-5 per cent. of recoveries. There is no brain that will not give way under sufficient strain, if applied long enough, hence the importance of early and skilled treatment. The *sine qua non* of treatment is isolation, rest, food and sleep, with the incubus of heredity, syphilis, and alcoholism as factors of cause, a slighter

strain will produce this most deplorable of diseases, and with but one per cent. of recovery.

In order to remedy this appalling record, the State has adopted at its last legislative meeting the "Wisconsin method" of the care of its insane. It authorizes each county to erect buildings under the supervision and approval of the State Board of Charities, for the care of its indigent insane, who had passed beyond the hope of restoration, and appropriates one dollar and fifty cents per capita, per week, in addition to one dollar and seventy-five cents that the county pays for each one. The members of this class have merely a vegetative existence, and require little care beyond shelter and food. Fully one-half of the inmates of the Danville hospital require no medical attention, and could be pleasantly and profitably kept in these county homes. Not the keeping of the ordinary poor house system, but homes with modern conveniences, attended by competent persons under the care of the Secretary of the Committee of Lunacy, and of their friends, who can visit them without feeling that they can illy afford it as they now do, when they have to make expensive visits at State institutions. Those who might become excited and unmanageable could be returned to the different State hospitals without any detail expense for temporary or permanent treatment, being a portion of the State system of its care of the indigent insane. The admission into the county hospitals should invariably be from the State institutions. All insane should be sent to the different State hospitals as soon as insanity develops. If they are not restored to their normal condition in a year, they are then classed as chronic insane, and should be returned to their county homes, which the State wisely recommends. They will thus have the advantage of expert treatment, under the most favorable conditions. If the acute insane are allowed to drift into the county homes, they would lose these priceless advantages which the State pro-

vides with generous liberality. Discretion should be allowed to the superintendent of these State institutions to discharge those who by heredity or other causes are incurable, approved by the commission of lunacy, and have them removed to the county homes at an earlier date so that the wards may be used exclusively for the class that will be restored to their home life and usefulness at an early period, with 75 to 80 per cent. of cures, instead of the present ratio of from one to five per cent. At these county homes idiosyncrasies can be studied and humored, being near their old homes and their home life. They require little medicine and medical treatment, and can perform a certain amount of work, and be kept cheaply and comfortably. The result in Wisconsin has been that the State hospitals have been relieved of their overcrowded condition, the county institutions are satisfactory, and in about 12 years all the improvement bonds have been paid by the savings incidental to this system, and the products of the farm and the State appropriation of one dollar and fifty cents have paid the total maintenance expense. This plan, when carried out, will relieve the hospital of this undesirable class of inmates, and enable the able corps of medical men who devote their attention to the acute insane, to bring about a higher rate of recovery than at present. The hospital at Wernersville was expected to care for this class of the insane, but an unfortunate construction of the laws was carried into effect, that they should be kept cheaply, and the able-bodied men and women of the different hospitals were drafted to the extent of its capacity, 800, which interfered with their general efficiency, and when they were worn out or sick, were returned and others substituted of the working class, entailing a loss of workers, with increased number of sick and disabled, who could ill afford to be replaced in the overcrowded wards from which they were taken.

The proper plan for the State would be to transfer the chronic insane now at Wer-

nersville to the respective hospitals from where they were drafted and by the erection of two additional buildings to their large plant, have a hospital for 1,000 inmates and the completion of the infirmary at Danville would be of great advantage to that institution, and the general adoption by the counties of the State of Wisconsin system would give all the hospitals space for the State that it would require for years to come. The insane require ample space during treatment, nor is it advisable to place them into wards by classification. Thus a ward exclusively devoted to the depressed would intensify the malady.

A typical hospital is located at Gheel, Belgium, where the community devote their exclusive attention to the insane, each family having a certain number in the family circle who are assigned them by the physician in chief, who has a small hospital for acute patients. These latter patients after due study and observation, when deemed suitable, are placed under medical supervision without restraint beyond the family influence. Those who are not suitable cases are transferred to the general hospitals for insane, as with us. Hundreds are annually placed in these family homes where their recovery is almost assured. They work on the farms, yards and gardens, and have a satisfactory history of restoration. We, in America, cannot hope for such an institution, as we neither have the educated people nor communities where this plan would be feasible. The nearest approach to it will be our county homes. The lack of skilled medical supervision of the State institution is over-balanced by the freedom from restraint, constant out-door life, congenial occupation and relief from crowded wards. It is true the disturbed and untidy are in more close connection with the others in these smaller institutions, but the greater latitude of the inmates and varied work will make amends for this objection.

The State hospitals will be enabled to devote their entire energy to the cure of the

acute cases, thus becoming true hospitals instead of being places of detention of a class that is inconvenient and dangerous to be at large. Some advocate the mutilation of those who are incurable and of those who have so far recovered as to be at large; others a proper regulation of the marriage laws for this class. This would be special legislation. The State having authority to legalize marriage has the inherent authority to state who may be married. The sanitary laws for the Hebrews, instituted by divine authority by Moses, are not improved upon at the present period, and the result of this inbreeding for centuries, has formed a race that thousands of years of oppression has not effaced nor diminished their commercial, political and intellectual powers. The family trace is so firmly fixed that it can be recognized over the whole world.

Darwin states that "man scans with scrupulous care, the character and pedigree of his horses, cattle and dogs before mating them, but when it comes to his own marriage, he never or rarely takes such care." If both sexes would refrain from marriage, if in any degree inferior to the general average or physical vigor, there would be no occasion for laws restricting the marriage relation. The degenerate classes marry early and have a large number of progeny, while the higher class marry later, and have few children. The inferior class when unable to work, or when they become dangerous, from their defective origin, are carefully treated in expensive institutions, and their lives prolonged. Those of this class who have a higher brain development, constitute our criminal class, and having the advantage of public education, are enabled to do more harm by this education and largely fill our penal institutions. In fact, those fortunate in having sound brains must be the keepers of his fellow-men, or they will overpower him. The protection of life is imperative, and the true protection of inferior life is its prevention. We should have general marriage laws under State supervision, so

that a license for marriage not only includes proper age, but exemption from heredity and acquired diseases.

The importance of a restraining clause in the marriage license, which is the keystone of national prosperity, is clearly expressed by Dr. H. C. Rutter, superintendent of the Ohio Hospital for Epileptics, "That insanity, epilepsy, and the allied nervous disorders are hereditary in 25 per cent. of the cases applying for admission in our State institutions." Dr. Ohlmacher, of Cleveland, Ohio, states that "so far as legislation against inter-marriage is concerned, the only action I know of is Dr. Parker's (Cleveland) recent bill before the Ohio legislature, which proposes to legally restrain the marriage of individuals afflicted with hereditary disease. This bill will probably be laid aside." An unwritten law in Brazil among the higher classes, requires a man about to marry to furnish a certificate from one or more physicians to the effect that he is free from disease that could be transmitted to offspring.

At a recent women's congress in Paris, resolutions were adopted to the effect that all families must secure certificates of health from intended sons-in-law, in order to guard the daughters of the republic from risk, and to prevent hereditary maladies in a later generation. I would suggest the advisability of having this Society recommend that the attention of our Legislators be called to the advisability of having a general law passed at its next session that the wards of the State, who have been discharged from its protective care, shall not have the privilege of the marriage laws, without passing an examination by a duly qualified board of physicians, appointed by the Executive, to determine the fitness of all applicants for the marriage state. This shall include those who have been inmates of the various State institutions for the insane, blind, deaf and dumb, and feeble-minded. While this will afford only a modicum of relief, it may be the entering wedge for a more protective law for the country from the annual accruing of this degenerative class.

SANITARY RELATIONS OF OUR HIGHLANDS TO THE STATE.

By J. T. ROTHROCK, M. D., OF WEST CHESTER.
Commissioner of Forestry.

Civilized man has reached his present condition by a regular series of steps, which, in all countries, show a general resemblance, modified slightly by the surrounding conditions which modern science groups under the comprehensive title of environment.

His original home was located where the labor of obtaining a living was lightest; so far at least as what he understood by ease and home, were concerned. These terms would naturally vary according to the mental state of the times and the community in which he lived. Thus, if he were in the agricultural period, after having gone through the pastoral state, he would seek the lands which promised him the largest crops with the least preliminary preparation.

He would locate on the level bottom lands, and frequent the mountains only when his instincts impelled him to return to the chase, or when necessity obliged him to do so.

So far as changing the general character of the country was concerned, or in any way modifying climatic conditions by his operations, it might be said that his influence during the earliest stages was hardly greater, in our country, than that of the beaver. New needs, commercial relations, and pressure of increasing population brought, with their advent, the duty of invading other fields, and seizing upon resources previously unutilized.

He also became aware of the fact that he was a machine, subject to wear and tear, to ills and aches, upon which location had an hitherto unnoticed influence, and which affected his offspring as well as himself. How long it required him to reach these conclusions, and to act upon them after he became acquainted with the facts, would naturally,

depend, as it still does upon his stolidity and stupidity. We all know men who are conscious of a danger, but who lack the small mental keenness which will impel them to take the necessary steps to avert it.

No one will deny that there are regions which by reason of their pre-eminent salubrity of climate, and small value for any other purpose, should be regarded as naturally dedicated to sanitary purposes. This then raises a most important relation of the commonwealth to its population.

There is no duty which the State owes which is more fundamental than that of protecting itself, and providing for its own prosperous perpetuity. If it does this, it will, by the very act, care for the really best interests of all the citizens who owe it an allegiance. It therefore follows that we have neither a legal, divine nor moral right to despoil the estate of the future, and it is the very first duty of the government to see that we leave the land in as good condition for those who are to follow us as we found it for ourselves, and as much better as is possible. It is for this that the State exists, and if it fails in this, it fails in its very first duty. This is probably a new view to take of it. It does not comport with either the spoils system, or with the idea, that after us comes the deluge, but it is, nevertheless, based upon the wisest practices of the most liberal, civilized nations which were old and well established before our young nation had commenced to do business for itself.

Furthermore, it is the idea upon which all of our legislation must be based, if we can cherish any reasonable hope for the free institutions of which we boast. It is just as well for us to learn as soon as possible that we are only a chosen people so long as we obey those moral and political laws which are founded on eternal fitness and necessity.

The question I desire to start by this enunciation of the principles of political economy is, have we a right to render any region less fitted for the health of its inhab-

itants? Or, to put the matter still more plainly, have we the right to destroy, or to neutralize, natural conditions which lead to health? Is there any business interest which will justify the State in allowing this to be done? If in so doing, we are lessening the vigor of the population, then we are striking at the very productive power of the commonwealth, and thereby jeopardizing the very element upon which, more than anything else, its permanent strength must rest. Its productive power, its success in competition, must first of all hinge upon constitutional vigor in its citizenship.

It is no answer to this question to assert that men are becoming longer lived and more robust, that we are learning to control certain diseases more perfectly, so long as we fail to utilize all of the health-giving influences. The changes for the better which we are making, are by virtue of subduing or counteracting unhealthy forces among which we live in following our daily avocations. The other health forces to which I allude are resident often in other regions, and are supplemental to the hygienic influences of our business homes. Add the invigorating atmosphere of the regions in which health is endemic, if I may so use the word, and we then invoke for the race the very best conditions under which men can live. When we do this, it will be fair to assume that we shall surpass all of our present best standards. Longevity has too often been increased by the efforts made to protect those who are inherently weak. Humane it undoubtedly is to do this, but whether in the long run it is the best thing for the race is another question. At all events, no one will be disposed to doubt that it were better, if possible, to effect cures and thus to fit these same weak ones for their burden in the work of the world, rather than to nurse them into chronic invalidism.

Our State stands pre-eminent for its care of those, who by reason of infirmity due to age or to disease, are unable to provide for

themselves. No one who recognizes the obligations of a Christian government can fail to look upon this as in the highest degree praiseworthy and commendable.

It appears from the report of the State Treasurer that the appropriations for the years from the first day of June, 1897, to the same date in 1899, are for charitable institutions, homes and hospitals, \$1,692,961,-41. For the same period the appropriations for the insane asylums aggregate \$1,658,-020.29. These sums together reach \$3,328,-981.70 for two years; that is \$1,664,490.85 annually. This is surely a showing of which the commonwealth may well be proud, as it compares itself with some other States.

Now it is to be observed that, in all this liberality, the provision is for those who are sick or injured, and much of it for those who show small hope of prompt and permanent cure. There is state charity for the lame, the halt and the blind. We care for the deaf, the dumb and the insane. There are maternity hospitals, and training schools for nurses, all of which are under the care of the State, or at least the State supplements private charity. We even enact laws by which the fruit-grower is to be protected against contagious diseases which might invade his orchards, and destroy his trees; but whatever protection there is against those contagious diseases which blight the vitality of our own race is miserably inadequate, and based rather upon the immediate economies than upon that broader foundation which looks to the largest permanent good.

I trust the time is not far distant when those afflicted with pronounced pulmonary tuberculosis, and who cannot be humanely cared for at their homes, and so isolated that they are no longer a menace to their fellow-men, will receive the care of the State. There is provision made by our Legislature to guard against any sudden invasion of disease which might take an appalling epidemic form, but almost none for the pest which we have always with us,

and which scatters its seeds as it appeals to our sympathies.

It is a fortunate thing that the dominant thought of the age is always of a higher grade than that of the average of the citizens. Were it otherwise, there would be but little hope for the amelioration of this condition of affairs. We are apt to consider even the most modest aspirations of hope as doomed to a long waiting before they can be realized. This pessimistic view is not, however, borne out by the histories of reform. The world advances faster than any one of us, and as our children, saturated with new ideas, step serenely and confidently on to the stage, we become back numbers. The tallest genius of half a century ago would think he was in a haunted atmosphere if he came back to earth, and saw and heard us talking by telephone to a man in Chicago. We can almost believe they who follow will talk from earth to us in Paradise—"if we happen to go that way."

With all the changes which rise to the surface of the body social and politic, and "which will not down," we may be very sure that the immediate future will insist that men are entitled to as much protection against insidious, contagious disease as against any other controllable force which works harm to the community.

It is now more than forty years since I began as a young man to observe the character of the various portions of this State, and I may add incidentally that chances for comparison of the conditions existing here with those of other and distant parts of North America have not been wholly wanting. When my observations began, there was an area of about 8,000 square miles nearly in the center of this State which was almost a continuous and unbroken forest. That is, about one-sixth of the State was as yet almost wholly in its original condition. Besides this, in those counties which were among the earliest settled, there was over the State, on the average, perhaps as much wood as cleared land. At the present time,

of the large tract to which I have just alluded, hardly a vestige remains over which the axe and the fire have not gone. But one or two original forests of considerable size remain in the State. I make these statements merely to show how rapidly these changes have taken place, and then to ask whether, if woodlands have any hygienic relation to the commonwealth, it is not time proper steps were taken to protect and restore such as it is the interest of the State to have? I need hardly remind you of the condition to which these regions which have been lumbered over, and have no agricultural value, have been reduced! This you can see for yourselves by a ride over the Philadelphia & Erie Railroad between Keating and Kane! Desolation is the one word which will properly characterize a large portion of the way. Yet this is in what may be properly designated as the health belt of Pennsylvania.

I now ask you to recall an admirable paper by Dr. Guy Hinsdale, which was published in the *Medical News* for August 4, 1894. Comparison is there made between the Adirondack region of New York, whose healthfulness is so generally recognized that it may well serve as a standard, and some other parts of the same State and of Pennsylvania. It appears that in the Adirondacks the annual death rate from pulmonary tuberculosis is one in from 854 to 985 of the population. This is of course a great advance from one in 400 out of the population in the regions adjacent to New York City, or even from one out of every 550 in the Hudson river region. If, however, we compare, following Dr. Hinsdale, the seven southern counties of New York State, we find that there the death rate is one out of 1,091 persons.

For our present purpose, it is unnecessary to comment further than to call attention to the fact that the same observer finds that in the county of McKean, in this State, the annual death rate from the same cause is one out of 1,330. The reports from which

this estimate was made were dated in 1880, eighteen years ago. That region was then still in what might well be denominated the heart of the lumbering operations. We recognize that in thirteen years, from 1881 to 1894, the death rate in Philadelphia from consumption has been decreased almost 31 per cent. But as we can by hardly any stretch of the imagination anticipate a time when it will be as low as it has been in McKean county, the latter will remain a standard of comparison. It would be an exhibition of common sense if some hospitals were located in the most healthful regions, in order that patients may have the advantage of every favoring condition. That is when the character of disease makes this possible, or of marked advantage.

This, then, is the proper place to call attention to the fact that out of the hospital appropriation of \$843,800 for this year, only \$18,000 were spent within the counties of Warren, McKean, Potter, Tioga, Bradford, Susquehanna, Wayne, Pike, Sullivan, Cameron, Elk and Forest. In other words, these twelve counties which are by nature endowed with an exceptionally healthful climate, and which have a population of about one-fifteenth that of the entire State, receive only about one-forty-seventh of the hospital appropriations of the commonwealth. The obvious inference would be that because of the very healthfulness which they possess, they are to that extent free from the necessity for a more equitable division.

There is, however, another aspect of the problem. It appears from the researches of Dr. Hinsdale, Dr. Towler, and others, that the region embraced within their limits is an exceedingly favorable one for persons afflicted with pulmonary troubles; and that right here in our own State we have a natural sanitarium quite equal to that of the Adirondacks in the State of New York, and let it be added with a charm of scenery which renders it attractive to those who visit it.

From the time of the early Aryans to the present, men have longed for the free-

dom and rejuvenation which are associated with the woods. A leading German writer asserts that a people which has lost its fondness for them has lost its virility. The desire to rest among the forest shadows comes upon the majority of us once in a while as an overmastering passion. We Pennsylvanians spend thousands of dollars annually in the Adirondacks (to the great advantage of New York) mainly because we have destroyed the primitive attractiveness of our own woods. In the above-named counties of this State there are large areas where agriculture is impossible, and even grazing gives but slight hope of ever becoming remunerative. Much of it is now abandoned, and sooner or later will come into possession of the State. Protective fire laws will in all probability allow restoration of the timber growth.

Certainly the area can be turned to no better purpose than that of a State forestry reservation. As such it will be the property of the people, dedicated to their use, and to be forever administered for the good of the whole people. In these reservations the sanitariums of the future will probably be located. New York generally leads us by a little in her forest policy, and therefore I hail as an omen for good the following resolution which appears in her Senate as bill No. 30:

"Whereas, It is stated that about thirteen thousand persons die yearly of pulmonary consumption in this State; and,

"Whereas, Experience has shown that at least thirty-five per cent. of such might have been saved provided a proper place were devoted to the care of such consumptives in the early stage of the disease in the State Forest Preserve; and,

"Whereas, The vast majority of those who die from pulmonary consumption are too poor to obtain the necessary relief by reason of no provision having been made by the State; therefore, be it

"Resolved, That the committee on public health be and hereby is instructed to inves-

tigate and report as to the advisability of establishing a State Colony for Consumptives in a proper locality in the State Forest Preserve, where those suffering from the early stage of the disease may have an opportunity to obtain those favoring influences which promote recovery. The now known and recognized contagious character of pulmonary consumption is such that we have the double duty of saving, if possible, the sick and of protecting the well."

So far as I am at present informed, there is but one specially provided State hospital in this commonwealth for the reception of consumptives—the Rush Hospital, located in Philadelphia. It has for the present year the sum of five thousand dollars from the State. The Pennsylvania Society for the Prevention of Tuberculosis, with headquarters in Philadelphia, was organized April 10, 1892, and incorporated in 1895. It is one of the forces now actively engaged in working for better methods of dealing with this class of disease; perhaps I might say it is the most potent force.

We may derive comfort from the knowledge that England, France, and Germany all surpass our own State in the degree of attention which they give the treatment to the tuberculosis patients by isolation. After careful examination, the friends of this treatment, for consumptives, have finally accepted the generous offer made by Dr. S. W. Trimmer, of the free use of a lot of land favorably situated near White Haven, for the erection of a sanitarium for consumptives. It is the starting point of a greater movement in the near future, which promises to commend itself to the judgment of our citizens and of our legislators, because it is the cheapest, as well as the most humane, thing to do.

The White Haven location is in many respects a most fortunate one—the ground is high, the air pure, railroad access easy, and numerous attractive drives will tempt the patients out into the open air. This strikes me as a most fortunate element in

the problem of relieving consumptive cases. There are three cases of this kind that have made upon my mind an impression which I can never forget! Briefly they are as follows:

About the year 1872 a distinguished surgeon of Wilkesbarre, a man of real talent and skill, who had so endeared himself to the community that any harm to him had come to be regarded as a public calamity, had reached such a point with pulmonary tuberculosis that it became impossible for him to continue longer in active professional work. It was in the month of March, on a raw, inclement day, that he volunteered to accompany me on a thirty-mile drive to North Mountain, one of the highlands of the State in Sullivan county. He was desperate, and ready to do anything which promised good. I wonder now at my own willingness to have him undertake the trip. But it was his choice. By three o'clock in the afternoon we were driving slowly up the rough road, in the last stage of our drive. A blinding snow-storm came on. He was almost exhausted, and as the temperature became lower he was chilled, and when we reached the house I feared he would collapse completely before reaction could be established. We were not expected at the hotel, and no preparation for his coming had been made. However, we at once set to work to provide warm apartments for him and to get him to bed. Restoratives were administered, and in a few hours he had fairly commenced to rally. Day after day he gathered strength, until his gain was an amazement to even himself. In six weeks he left the place, went back to Wilkesbarre, and practiced his profession during that entire summer, through the fall and winter, until the following spring, when he began again to decline. His friends then sent him off for a month or two to Cuba. No good was received from the trip. He returned home, and in a few months died. There never has been in my mind a doubt that a residence of a year or two on North Moun-

tain would have saved that most valuable life, or at least greatly prolonged it.

The second case was that of a well-known geologist, a professor in one of the most prominent colleges in New York City. He had temporarily resigned his duties, and sought health in the field, and was assigned to one of the government topographical parties which were operating in the Rocky Mountains of Colorado, in the summer of 1873. Within ten days after he reported for duty, he was sleeping out on the ground, in the open air, at an altitude of from ten thousand to twelve thousand feet above sea level. This was in the month of June. The air was still raw and cold from the masses of snow which lay unmelted in the immediate vicinity of the camp. A severe trial you will say. Undoubtedly it was, and no one realized this more than the unfortunate victim himself. I shall never forget his anxiety, when the experience of the first night presented itself to him. But to make a long story short, he bravely endured all the hardships of frontier life, and did all the work his strength allowed, under the not very tender treatment he received from June to November, and when he rode his mule into Denver at the end of the season, he had slept out the night before on the bosom of mother earth, while the thermometer stood at twelve degrees below zero. He returned to New York City with a gain of twenty pounds of solid flesh. For two years more he continued in the same service, and lives to-day, one of the most honored scientists of the land. But was it after all a case of genuine pulmonary tuberculosis? I cannot swear that it was. But I must add that one of the leading men of the New York medical faculty had been treating him, and had made a most careful examination of his chest, and most positively pronounced that one lung was in a serious condition, and that the other was becoming involved. I hope it may be a long time before the autopsy will enable his medical friends to remove what little doubt remains in his case.

Another case, in the same expedition, was an unfortunate private soldier who was sent as one of our military guard from Fort Leavenworth. He was tall, stoop-shouldered, sallow and with a hectic flush and constant cough and expectoration which would have rendered any other diagnosis than that of consumption an absurdity. He received no special compassion because of his condition, but was regularly assigned to duty on guard, and with the assistance of Providence got through it the best he could. As the summer wore away he gathered strength, and the present speaker as the medical officer of the party, knows that he neither asked nor received any medical aid. When autumn came, and the party was disbanded, after five and a half months of active field service, sleeping out every night with no other shelter than the blankets and the sky, this same apparently hopeless man was returned to his company rugged, ready for duty, and with a gain in weight of almost thirty-five pounds. Twenty-three years later he was found in Pennsylvania "tramping his way" toward a distant soldiers' home.

Even at that early day there were invalids everywhere in Colorado. We have found none, however, who had made the same rapid gain that I have called your attention to in these two members of my own party. There must have been some reason for this difference. They all breathed the same air during the day: but at night while our men were out in the pure air, others were stowed away inside of some more or less stuffy room, where under judicious supervision they were robbed of one-half of the benefit which should have been derived from proper protection in the open air absolutely, for twenty-four hours out of the day.

Let there be one qualifying statement here. I advise such treatment only for the early stages of the disease. To make it successful, we must have a fair natural recuperative power left, and above all, while the pure air has full access to the lungs, the patient should be so protected that he burns

up the minimum of tissue in keeping warm.

The month of May in this memorable year furnished an illustration which every intelligent man should take to heart, especially if he be one of our number charged with the health of the community, and with that of the individuals composing it. Thousands of our young men, who for the most part had been tenderly reared and shielded from harm in comfortable homes, were by the exigencies of war suddenly called to take the field. They were thrown at once into camp, under such stress of weather, and with such a shortage of proper food and protection from the storm, that anyone might, unless he actually knew better, have looked for an enormous amount of sickness, if not actual mortality, at once. Yet the truth is the sick list has been very small. In spite of the fact that these young men were by no means generally more than usually robust, that for about thirty-six hours they were wet to the skin, and almost chilled to the marrow, it is doubtful if any serious results have followed. If so, they have been few indeed. Is it not time for us as an honorable, intelligent body of professional men, to look these facts fairly in the face, and send these same ones, ailing from undue housing, out into the open air, where, under proper shelter, and with abundant food and clothing, they might by day and by night have the full benefit of all that there was for them in the atmosphere. The forests of New York have yielded an equivalent value for cost in the rejuvenated manhood they have returned to the commonwealth. Pennsylvania may well profit by her example, and as early as possible possess herself of the unutilized regions of health within her limits.

The pine woods of Minnesota which, within the memory of most of us, were popularly regarded as regions of special sanitary value, have certainly lost much of the esteem in which they were once held. We are informed that the air has become more raw since the removal of the tempering

cover of timber. The health authorities of several of our western cities have alleged that pneumonias have become more common than formerly, and that there has been a notable increase in the pulmonary tuberculosis of the surrounding districts which is not to be accounted for on the mere increase of population; that, in other words, there is an increase in the percentage of such cases!

We are, it seems to me, guilty of a strange inconsistency in our logic as we apply it to such diseases. The keeper of every menagerie knows perfectly well that a very large proportion of his animals die from tuberculosis when they are deprived of open air and liberty. Even the dairyman, whose high grade cattle receive the greatest care, will probably recognize that tuberculosis is more common among such herds than among those where less care and more exposure is common. Now herein is to my mind the inconsistency, that just when our cases of incipient tuberculosis appear, we in our excessive care redouble precaution, and too often deprive the sufferer of an extra allowance of open air.

As fully as any man I recognize that all locations are not alike in this matter. That there is a wide range of choice, and that on the wisdom with which we make the choice may depend the issue of life or death for the sufferer. It is just upon that very point that I now again sum up the relations of these State highlands to our population.

First. They are known to show a small percentage of cases of pulmonary tuberculosis, as compared with other regions.

Second. They are in large measure unfit for remunerative agriculture, and are now for the most part stripped of the timber which is the only crop, apparently, for which they are fitted.

Third. These lands have hitherto been subject to almost annual fires, which have destroyed what young timber was coming up. The result is that the soil has been fast reverting to a desert condition, on which

no crop can in future be produced, even of trees, except at a great expense. In fact it is now so impoverished that the owners refuse to pay the taxes on them, and the counties are to a great extent deprived of the taxes which they should receive from them.

Fourth. In the near future, unless the State assumes the control of these areas, they will be a source of injury to the commonwealth.

Fifth. In this condition they threaten to diminish the productiveness of the soil by removal of the moisture in the atmosphere, and to increase the virulence of disease germs by concentrating them in a smaller volume of water. There seems to be but one way in which these unfortunate conditions can be changed, that is by the State assuming control of them, and protecting them against further forest fires.

This line of policy is in strict accord with that which other nations have already tried and found of advantage to themselves. They could then become the property of the people, and be administered with reference to the good of the whole State. Such areas would become the natural sanitariums of the commonwealth, and nearer home than in the Adirondacks, our people would find the climatic conditions which they now go away to seek.

The fact does not appear to be generally recognized that there is an almost continuous belt stretching across from Pike to Forest county, with an altitude varying from twelve hundred feet above the sea to twenty-three hundred feet, and that in it one may find during the summer a temperature where the thermometer seldom ranges above eighty degrees of the Fahrenheit scale, and where almost every night of the season one may sleep with comfort under blankets.

Furthermore, during even the uncertain months of early spring, when our lower counties nearer the coast are suffering from raw East winds, these same regions are enjoying a more seasonable and comfort-

able climate. An instance may give point to this statement. On the 28th day of April, this year, I drove down from Kane, in McKean county, to Mount Jewett. The morning was somewhat cold, though not severe enough to oblige one to wear gloves or an overcoat. In the afternoon of the same day the sun came out, and the temperature was balmy as befits the month in this latitude. The following, however, was the record at West Chester for the same day, at an altitude of 406 feet above tide: Mean temperature, 36, from 7 A. M. to 9 P. M.; rain, and during the day considerable snow and sleet! The climate of Kane was actually more genial at an altitude of 2,002 feet, than was that of West Chester. Strange as this appears, it is by no means exceptional, or wholly unusual. I have in mind cases of confirmed asthma which find almost perfect relief while in that region.

There remains one more point which has often presented itself to my mind, though I have seldom alluded to it. Lord Kelvin, the most distinguished scientist of England, recently called attention to it in an article entitled "Is the Air Giving Out?" The original paper I have thus far been unable to obtain, and am therefore obliged to make the following extract from a review of it: "His arguments are supported by a number of eminent scientific men, who call attention to the fact that the oxygen of the air is now undergoing depletion at a rate enormously beyond its replenishment by growing plants, which are practically the only oxygen makers—[I should say oxygen liberators]. At the same time, the plant life of the world is being annihilated at an alarming rate incidentally to the spread of human civilization. Every forest destroyed is an oxygen factory destroyed."

This question is at present far from being settled, but we are probably safe in the assertion that growing plants are the only known sources of oxygen supply, and that therefore there is great pertinency in the inquiry of Lord Kelvin. Of course, we all

recognize the fact that the quantity of oxygen found in the atmosphere in habitable places does not greatly vary, whether we compare the forests of Oregon or the desert of Sahara. This, however, has but little real bearing on the question, because of the known rapidity with which the gases of the atmosphere tend over wide areas to become equalized in normal proportions. The real fact is, only what exists can be utilized, and that therefore if, under any circumstances, the supply should run short, the proper proportions would be impossible.

A much more important question for us to consider here is the fact that in the near future our sources of water supply must be changed over a large portion of our country. For example, the numberless wells which are found in our country towns are largely affected by surface drainage of the towns themselves. Disease germs are often present in such cases in a concentrated form. It is equally true that in the majority of cases, water from an uncontaminated fountain head could be had if town authorities could be induced to banish the ruling dollar for a moment from their minds, and place a business estimate upon the preservation of their health, and that of their families.

Take any map of the State, on which the river system of the commonwealth is delineated, and note what a large proportion of the streams, which must shortly become the source of water supply, head in the highlands of which we are now speaking. If these regions, now denuded of their forests and burned over, are to remain forever in this condition, instead of aiding in hoarding the water required for our domestic uses, they will simply become evaporating areas instead of water-retaining surfaces. Of this there can be no doubt whatever.

To place this fact in a stronger light, let me remind you that from a mile square of surface, the sun in an average month of July in this latitude is capable of evaporating not less than 3,339,304 gallons of water.

Of this enormous quantity a very large proportion would be saved if we simply kept the fire off the ground, and allowed the soil to cover itself again with a growth of timber.

We know too well the tendency of men to sink every public interest in their own private gain. The one fundamental object of wholesome government is to prevent this very tendency from working, in one way or another, untold harm to the community. The average citizen is no more fit to control the conditions upon which the water supply of the community depends, than he is fit to control the weather. This emphasizes the inquiry as to whether we are not nearing the period in which the State must take possession of these highlands in which the streams head, that are so essential to the continued prosperity of the commonwealth, especially as it can now be done at so little injury to those who, while owning them, continue to neglect them. It must be remembered that if it is ever to be done, there will be nothing so costly as delay.

Out of the soil all our prosperity must at first spring. There is no mechanical industry or profession that is not nursed by it. The character of the surface and the products of the surface determine the longevity and the strength of the race. Every acre must produce something, or fail of its mission. It requires no prophetic vision to anticipate the time when it will tax the commonwealth to provide for all of its deserving and industrious children. Much of what we call necessity now, will then be regarded as luxury, just as it is already considered by the masses of every other civilized people. This comes simply because the soil will only produce a given amount, and the quantity for each mouth diminishes as the number of mouths increases.

There is a vast area in this commonwealth, which under private management has been despoiled and turned over to the elements to do their worst with. Easily reclaimed now, they might become sources

of revenue to the State. Neglected a little longer, their reclamation would be both costly and slow. The body politic would suffer even while the restoration was in progress.

From just such areas as these unproductive highlands the German Empire is now deriving a large part of its income by the production of timber. This is, however, but a small part of the good which those same lands are accomplishing for the German states. A large portion of the life of the Empire is related to these forest lands. In the Black Forest, for example, a German student will spend a whole vacation, gaining health, strength and knowledge for a smaller sum than one of us will spend in a fortnight in one of the ordinary Adirondack resting places. So it might be here. But the wholesome life of the German forest villager or student can at present find but little encouragement on desolated hillsides, such as I have shown you this evening.

We owe it to the future that this condition of affairs should be changed; that the diminished volume of our streams in summer should be restored to proper size; that six thousand miles of the area of our commonwealth should be changed from areas of evaporation to become water-retaining surfaces, because the agricultural world is fast coming to the conclusion that the certain growth of crops will soon force the need of irrigation upon us here.

Further, we need that these areas be made productive of forest wealth for our industries and of health for our ailing citizens. We have a right to demand that an end shall be made of the annual scourges of fire which turn to smoke and ashes the wealth of the State, and the property of its people. We may confidently hope that the law will intervene and prevent that misuse of natural resources in soil, upon which the life and strength of the State itself so largely depend.

Elixir Aromaticum, U. S. P., is intended for use as a pleasant vehicle. It is practically free from the element of incompatibility.

Original Articles.

Read at the meeting of the Medical Society of the State of Pennsylvania, Lancaster, May 17 and 18, 1898.

SOME CLINICAL NOTES ON SKIN DISEASES.

BY JOHN V. SHOEMAKER, M.D., LL.D.,
OF PHILADELPHIA.

Professor of Skin and Venereal Diseases in the
Medico-Chirurgical College and Hospital of Philadelphia.

I take advantage of the present opportunity to bring before you two cases which are of interest not on account of excessive rarity or unusual features, but because they are excellent types of their kind.

MOLLUSCUM FIBROSUM.

The first patient that I present to you is 36 years of age, and has, since his fifteenth year, been afflicted by numerous tumors upon the chest, abdomen, back, arms and legs. There is one growth also upon the dorsum of the right foot. The tumors are of all grades of consistency. They vary in size from that of a pea to that of a lemon or orange. Some are soft and pendulous, while others are hard and dense. Some are very superficial; others originate in or extend to the subcutaneous connective tissue. Over some of the growths the skin is of normal hue, while over others it is faintly red. Upon the lower part of the back are several large pendulous growths the size of a hen's egg or lemon. About two and a half years ago the patient had several tumors of considerable size removed from the side of the neck. The growths give rise to no pain or trouble, other than the inconvenience due to their number and size. None had ever suppurated. The patient is in good general health and no cause can be assigned for the occurrence of the disease. Although some of these tumors, especially those which hang by a narrow pedicle, are comparatively soft, none have that doughy feel characteristic of lipomata. The absence of pain excluded neuroma, and they are evidently not of malignant nature. Being solid forma-

tions, we may conclude that they consist of fibrous tissue, and originate either in the connective tissue stroma or the corium or in the subcutaneous tissue. They are that variety of tumor, therefore, known as molluscum fibrosum, fibroma molluscum, or molluscum pendulum. In cases where large folds of skin hang from a broad base the affection is termed dermatolysis or pachydermatocele.

There has been considerable divergence of opinion as regards the point of origin of these growths. Some pathologists have regarded them as beginning in the corium, others as arising from the walls of the hair sac, while the latest and now generally accepted view is that they develop from the fibrous meshes surrounding and supporting the fat globules. A peculiarity of their gross anatomical structure lends support to the conclusion that these tumors begin beneath the skin. If uniform pressure be made upon the smaller growths, they appear to be reduced in size, and driven beneath the skin, as if a small orifice existed in the integument.

Molluscum fibrosum generally consists of multiple growths. As in the present case, they are often very numerous. Other authors have reported similar observations. Dr. Brand met with a patient whose back and buttocks were studded with a great number of growths. Dr. Pode describes the case of a man covered with an innumerable quantity of small and large tumors. A Japanese writer has recorded a case in which the enormous number of 4,503 tumors existed upon the same person.

The disease usually, as in this case, begins in childhood. It sometimes seems to be hereditary, but no element of that kind can be traced in this patient. An interesting observation has recently been published by M. Furet, of a man who had a pedunculated tumor of this nature springing from the right tonsil, while upon the neck and trunk were thirty small tumors of molluscum fibrosum. They have also been witnessed upon

the gums, tongue and palatine arch. From pressure or tension, large molluscum tumors sometimes become inflamed and ulcerated. The inflammatory process may cause destruction of the growth with a residual scar. In other instances the lesions undergo spontaneous involution and disappear, leaving no trace.

There is a circumscribed form of molluscum in which the tumors are few in number, but large and grouped in the same region.

According to Hebra, the subjects of this disease are weak physically and mentally, but this opinion is not verified in the case which I have just described. The patient was a decidedly vigorous man, who carried on successfully some sort of manufacturing or mechanical business.

There is another disease which bears a similar name, and which might be confounded with molluscum fibrosum, and that is molluscum epitheliale. The resemblance, however, is not really very close. The characteristic lesion of molluscum epitheliale is a rounded tumor of a pinkish tinge, and a waxy or glistening aspect, the appearance of which has been compared to that of a pearl button. Molluscum epitheliale is rare, and occurs usually in the children of the poor.

The treatment of molluscum fibrosum is chiefly by surgical methods. The larger tumors may be removed by excision, ligation, or galvano-cautery. The method selected may vary with the circumstances of each case. In many instances, however, a more eligible procedure is electrolysis, and is that which I have employed with some success in the present case. The patient has now been under treatment for about six months, and an electrolytic current has been passed into the larger growths twice each week. The growths subjected directly to this influence have perceptibly diminished in bulk and the smaller neoplasms have, although not directly affected by the current, participated in its effect, and are undoubt-

edly in process of involution. With unwearyed perseverance in the treatment, we may expect to obtain a very satisfactory result.

It is, of course, a rapid procedure to sweep away some of the larger tumors with the knife, but it is out of the question in such a case as this to attack all or even most of the tumors, scattered as they are over so large an area. Such a method, also, has the incidental but very serious disadvantage of obliging the patient to relinquish his business pursuits from time to time. Moreover, and as a last argument, this man has already been treated by the knife, and is unwilling to undergo any more operations. I shall, therefore, continue the practice of electrolysis in the expectation of causing a decided and permanently beneficial influence upon at least some of the tumors.

PSORIASIS.

A man, 28 years of age, gives the following history: He was first attacked eight years ago by an eruption upon the skin. There are now abundant lesions upon the back, arms and breast. It begins in the form of small, isolated papules between which the skin is healthy. By the growth or coalescence of papules there are formed spots or patches of disease. The scalp is similarly affected. The hair is dry, and has lost its lustre. The scalp is covered with scales, due to furfuraceous desquamation. The scalp was the first region attacked.

The patches are of various forms. In some places they look like mortar splashed upon the skin. The eruption itches considerably at night, but not much during the day. Sometimes the patient suffers pain in the small of the back, and especially when the rash is most abundant. The disease is less troublesome during the summer. The skin is very dry; in fact, it is never moist. The man feels better after having had a bath, and many scales have fallen. His skin feels less dry and tense at such times.

In the preceding account we have a typical description of psoriasis.

Such a case is chiefly to be distinguished

from papular eczema. The papules of psoriasis, however, are larger than those of eczema. In the latter affection the papules are acuminate, congregated in groups, and when upon the forearm, are found principally upon its flexor surface. The scales of eczema are rather darker than those of psoriasis, because mingled with some serum. Squamous eczema is usually associated with an erythematous base, and some vesicles can generally be found.

The characteristic lesions of psoriasis are papules and patches covered with dry, adherent scales and surrounded by tracts of healthy integument. The gross aspect of a case differs somewhat according to the predominance of papules or patches and according to the size and arrangement of the patches. As in this case, they are not infrequently suggestive of drops of mortar. In some instances patches fade in the center, and thus form ringed figures. The coalescence at an angle of curved borders may produce serpentine outlines.

Psoriasis of the scalp does not cause baldness. The disease occasionally attacks the nails.

The causes of psoriasis are numerous. Its origin is from within, and can generally be traced to some morbid condition of the blood or disturbance of the nervous system. In my experience, the rheumatic or gouty diathesis very frequently underlies an attack. Local causes may co-operate in giving rise to the disease, but are not in themselves sufficient for its production.

As regards treatment, two deductions follow: Local measures are of secondary importance, and internal management depends upon the origin of each individual case. These are briefly the principles of treatment in psoriasis. If the cutaneous disease be but the reflection, so to speak, of an internal disorder it can only be cured by removing its source.

Preliminary to the adoption of treatment in any given case, we must, therefore, en-

deavor to ascertain its cause. If the psoriasis depend upon disturbance or lesion of the nervous system, we need to employ remedies which exercise a beneficial, and, if possible, a nutritive influence upon nervous tissue. In all cases the patient should be placed under the most favorable hygienic conditions. Electricity is a most valuable agent, particularly in cases of nervous origin. It is of advantage both to the integument and general system. I have made use of this force in the form of static and galvanic electricity. A mild galvanic current answers the desired purpose. If the liver is sluggish and the bowels inactive, I place the positive pole over the affected organ, and bring the negative pole in contact with the lesions upon the skin. Measures should be taken to promote directly the nutrition of the skin. For this purpose massage is an excellent procedure. Like electricity, massage has both a local and systemic influence. Moderate physical exercise, also, improves the condition of the skin by increasing its functional activity. Much good is likewise accomplished by the use of baths. The patient before us testifies from his own experience to the value of baths. He finds that they relieve the dryness and tension of the skin. In association with baths diaphoretic remedies often produce a good effect. I have often, in obstinate cases, availed myself with advantage of the powerful properties of pilocarpine. It is always of importance that the action of the bowels and kidneys should be maintained.

In cases which, like the present, depending upon a rheumatic condition, it is rational to treat the underlying cause. Sodium salicylate, salol, potassium iodide and sulphur are among the remedies upon which we may rely in such cases. Nevertheless, although these drugs are theoretically indicated, they are of no benefit if they disorder the stomach or produce untoward physiological effects. The case before us illustrates both the beneficial and adverse action of these substances. At times during

the course of treatment with the drugs just named, the eruption would sensibly lessen and sometimes would entirely disappear. The continued use, however, of these agents always ended by causing intolerance. The patient presented an exceptional idiosyncrasy against potassium iodide. Even small doses of that salt invariably gave rise to its peculiar physiological effects. Sodium salicylate was somewhat better borne, but it was often necessary to suspend its administration on account of the stomach revolting against this remedy. The same disadvantage applies to sulphur, which is often of avail in such cases. Arsenic, which in many cases of psoriasis is a valuable remedy, soon aggravated the general condition, and had to be abandoned. Under these unfavorable circumstances, it became obligatory to correct the state of the gastro-intestinal mucous membrane. With this object in view, the man was placed upon the following combination:

R	
Extracti xanthoxyli fluidi,	m. x. vel. xxx.
Tincturæ nucis vomicæ,	m. x.
Extracti hydrastis fluidi,	m. x.
M. Pro dosi.	

One such dose was given before each meal. This combination is tonic and, to a certain extent, anti-rheumatic.

In addition to this treatment by the mouth the patient was given every day a hypodermic injection of pilocarpine, beginning with one-sixth of a grain and the amount was gradually increased to one-half grain.

Under this management, the digestive functions have strengthened, and the eruption has decreased to a considerable degree. I have said nothing of local treatment, because in a case dependent upon the condition of the system merely external measures can never suffice. I by no means reject outward applications, but regard them as of subsidiary value. They aid in the quick removal of unsightly scales and stimulate the absorbent vessels to carry off infiltration. The scales can be loosened by the use of

water or oil. A poultice, a general bath or pledgets of absorbent cotton saturated in any bland oil may be employed. After the scales have fallen, there are numerous substances which are incorporated into ointments and used with more or less benefit. Among the most generally employed are tar, carbolic acid, creosote and turpentine. Some prefer to use chrysarobin or pyrogallol, but these powerful agents have conspicuous disadvantages. Sulphur, tar and salicylic acid are equally efficient, without the drawbacks of the last named substance.

ASEPTIC SURGERY IN COUNTRY HOUSES.

By CHAS. K. LADD, M.D., of Towanda.

It perhaps may be somewhat of a relief to you, after being so loaded with information as you have been by my learned predecessors for the past 24 hours, to relax a trifle and follow a country practitioner for a few minutes in a round of abdominal surgical work in the mountains of Bradford county. In the cases which I am about to report I have endeavored to proceed in an aseptic course, so far as it was possible for me to do so. I am sustained in my efforts by the hope that such reports may be in some degree instructive, or that they may, at least, have the negative value of serving as a possible help to some one else by enabling them to avoid the mistakes which I have made.

The first case I wish to report was one of right-sided incomplete oblique inguinal hernia, which was irreducible, and had existed for thirty years. This tumor was suddenly reduced by violence, due to stepping through the joists of an unfinished building and striking the tumor upon the edge of a timber. The fall was followed at once by extreme pain in the right groin, and soon by vomiting and a general condition of shock. I was called for consultation on the evening of the fourth day after the accident, and found the patient, a man nearly 60 years of age, with a feeble circulation, a cold, clammy skin and a facial expression

of extreme anxiety; he had had a condition of extreme obstruction of the bowel, since his fall, not even flatus passing; the vomiting had been continuous and for the preceding 24 hours had been stercoraceous in character. The situation was briefly explained to the patient, and his consent gained for an immediate operation, it having been decided that the obstruction was probably situated at the point of the hernial protrusion which had been violently reduced "en masse." All preparations were hurriedly made; a large quantity of water was boiled in a wash boiler and cooled; I personally shaved the patient's abdomen and pubes, and washed him in yellow soapsuds, after which I washed him in a solution of potassium permanganate followed by oxalic acid; all solutions were made in porcelain wash hand dishes, which had been carefully scalded before being used; his abdomen was then covered with towels, which had been hastily baked in the oven of the stove and afterwards wrung out of a strong solution of mercuric chloride in boiled water. The operator and one assistant prepared their hands and arms by the use of the solutions mentioned above, and were covered with aprons of baked sheets tied around the neck and body with bandages. The instruments had meanwhile been boiled in a solution of soda and water, as was also the silk for ligatures, sutures, etc. The patient was etherized in his bed, and then was placed upon a kitchen table, which had been covered with a bed blanket over which a baked sheet was placed. An incision about 6 inches long was at once made through the region of the right linea semilunaris, and carried rapidly down to and through the peritoneum to its full extent. The bowels were found to be glued to each other, and to the peritoneum by long strings of old organized inflammatory tissue, the result of an inflammation which had occurred, as we afterwards learned, when the patient was in his fourteenth year. These bands were broken by the fingers or cut when they were too

strong to break; each convolution of the bowel was freed from its neighbor, and every inch was loosened from its adhesions, and as far as they could be reached through the incision. There were many evidences found of recent inflammatory processes in flaky masses of lymph, but no distinct hernial mass was recognized, much to my chagrin. After being assured that all adhesions had been broken up, and the intestines fully freed, the abdominal cavity was flushed out with sterile warm water and the wound was closed with interrupted sutures of silk thread carried down through all the structures, including the peritoneum, a small piece of iodoform gauze being left in the wound as a drain (escaping from the lower angle); the line of the wound was sprinkled with iodoform and dressed with iodoform gauze and absorbent cotton, and a spica of the groin put on, and the man was placed in bed, his pulse being weak and his respiration shallow; he was given 1-20 of a grain of strychnine sulphate hypodermically, and this was repeated once toward morning. The patient rallied well after the ether, vomiting once soon after being placed in bed and not afterward. The morning after the operation, he passed flatus and expressed himself as feeling weak, but not nauseated, his respiration was fuller and was 18 per minute, his pulse was 90 and rather weak, and his temperature was 99. The wound was dressed on the fifth day, and was found to be perfectly dry and healed down to the gauze drain; this had become fast in the granulations, and was very difficult to remove; it was a mistake to place it there, I now believe, as there was no pus present. The man was given an ounce of castor oil, with 15 drops of tincture of opium and his bowels were fully opened. He made a perfect recovery, and his temperature never went above 99. He is at the present time working every day at his trade, that of a carpenter.

On September 15 I was called to a case of appendicitis in a boy 9 years of age;

there was fever, anorexia, pain and swelling in the right lower quadrant of the abdomen and the muscles in that region were very tense and hard; this condition had existed for six days, though the boy had only taken to his bed the day before; there had been some rigors, and there was evidence of the presence of pus. After consultation, it was decided to operate at once. After the usual aseptic preparations had been fully carried out, the boy was etherized, and the incision was made over the right linea semilunaris, and was rapidly carried down to the peritoneum; upon opening this I was at once met by a great gush of lumpy pus of a distinctly fecal odor; the appendix was soon found fastened to the brim of the pelvis; it was very long, and was turned upward, and the tip was fast to the cæcum. It was loosened from its adhesions by the finger, and brought out of the wound; it was found to be perforated near the middle, and was discharging a stream of thin fecal matter; the appendix was about 5mm long, was much thickened, and had several sloughing points over its surface; there was also a slough on the omentum about as large as a bean, which was tied and cut away. I found also a bad looking spot on the head of the cæcum which was very much inflamed and reddened. There was an enormous amount of pus in the peritoneal cavity, with no limiting wall of lymph. The appendix was fully freed, and was tied with catgut and removed, and the stump cauterized with carbolic acid. I could not invaginate the stump as I wished to, because the whole base of the appendix and the head of the colon was so softened that I did not think they would hold sutures. The pus was flushed out with warm boiled water, many gallons being used, but it did not seem possible to remove all of it. A drainage tube of iodoform gauze was carried deep down into the pelvis and was brought out of the lower angle of the wound, which was left open. The sutures were passed right down through all the coats of muscles and the peritoneum;

this was easily done, as in this case the abdominal walls were very thin. The wound was closed, save the lower end, dusted with iodoform and dressed with sublimated gauze, a pad of cotton put on and fastened by a bandage. The boy rested well, and the vomiting ceased after the operation; he was allowed nothing but cracked ice by the mouth, and was given 1-100 gr. of strychnine sulphate hypodermically, both before and after the operation. There was such an amount of serous (absorbing) surface in contact with the foul pus that I feared pyæmia; his temperature before operation was $102\frac{1}{2}$, and after varied from 101 to 102; about 6 hours after the operation he began to sweat profusely, and had some slight rigors; his circulation became weak, and he was given more strychnine and some sips of iced champagne, which he retained; more sweating and rigors followed, and a few hours before his death he had some convulsive movements. His death occurred at 11 P. M., about 10 or 11 hours after the operation. In this case, there was a history of a sudden attack of pain, with screaming and flexion of the legs on the abdomen occurring at midnight about 12 to 16 hours before the operation. I have no doubt the perforation occurred at that time, and I believe if the operation had been performed 24 hours earlier the child would have been saved.

The next case was one of immense appendical abscess occurring in a woman about 40 years of age, who had steadily refused operative means until an abscess formed and developed to an alarming size; her whole side became boggy and œdematous from the hip clear up to her lower ribs, and upon moving her upon the bed the pus splashed around like water in a half-filled jug. In this case there was a limiting wall of inflammatory matter, and it was easy to cut down on the pus and evacuate it; after allowing an immense quantity to escape, the sac was thoroughly irrigated with hot sterile water, and after it was well cleansed, was

filled with warm sterile water and left open; the cavity rapidly granulated and healed, the external wound being kept open by daily packing, until it could no longer be done. This woman made an uneventful recovery, and was delivered of a twelve-pound infant about one year after the operation, almost to a day.

About two weeks after the occurrence of the above case, I was again called into the country to operate on a case of appendicitis in the person of a young woman of about 21 years of age, who had the usual symptoms of pain in right iliac fossa, tumor, tetanic condition of the muscles on the right side of the abdomen, etc. In this case the usual precautions were taken, and the usual incision made, only to come down on another large accumulation of fecal smelling pus, surrounded by a limiting wall of lymph; this cavity was carefully washed out with sterile water, and allowed to granulate, which it did kindly. In both these cases no attempt was made to secure and remove the appendix for fear of infecting the general peritoneal cavity by breaking down the limiting wall of lymph. I know this method is contrary to the teaching of many eminent surgeons, but I am reporting cases, not commenting on the work of abler men.

I have notes here of four cases of operation for strangulated hernia, in each of which the abdominal cavity was freely opened, but since I am aware that I have more than filled up the time you were good enough to grant me, I shall not read them, but I am sure you will allow me the gratification of saying that they all recovered without incident.

If in these cases in the country one could command the services of a trained nurse, the labor would be much lightened, since without their help the work of preparing the solutions, dressings, etc., all falls upon the operator. Again in the preparation for operation, it is almost impossible to prevent the interested friends from testing the temperature of the boiled water by plunging

their hands in it, and their propensity to wipe out aseptic basins with their aprons is absolutely incurable. And since most of these cases occur at night, the matter of light becomes a serious consideration; I usually have from seven to ten kerosene lamps around me during an operation, and the extreme heat they give out make a very good substitute for a turkish bath. Then again, the presence of so many lamps is quite apt to ignite the ether vapor, and this accident as I know to my cost is extremely disconcerting, and it is well always to explain to your assistant lamp holder that he or she shall hold the lamp up high above the ether vapor.

CATGUT.

BY EVAN O'NEILL KANE, M.D., OF KANE.

Although the catgut ligature possesses many advantages over other suture materials, it is not ideal. It cannot be relied upon. It often breaks under trifling strain. There is uncertainty in the time required for its absorption, no two specimens softening with equal rapidity. Worst of all, it is a fruitful source of infection, no matter how carefully prepared.

Many a stitch or stump abscess, or infected wound, believed by the operator to be due to a faulty technique in other directions, is, in reality, due to the action of the catgut he has employed, despite the fact of its being thoroughly aseptic when used.

There are some favored operators who assure us that they never have a suppurating wound the year round, and that their ligatures and sutures invariably absorb without irritation. Of course these brilliant results, as shown in their statistical reports, can only be viewed by the practical operating surgeon as unattainable in his everyday practice.

One method of sterilization may be pursued after another, in the hope of avoiding sepsis, and yet an occasional serious disappointment may be expected. Stump and

stitch abscesses will now and then occur despite every precaution.

We and our patients can ill afford to have these accidents occur, even if infrequent.

Why does catgut thus sometimes disappoint us? It is not because the sterilization has failed to utterly destroy germ life, (any of the methods commonly employed can do this,) but because the material itself is a most fitting nidus for pathogenic organisms, after inception within the field of operation. This proneness of catgut to become infected after it has begun to swell and soften under the influence of the heat and moisture of the vital tissues, is what I desire to call attention to. It is this which is the chief objection to its employment, for silver wire, silkworm, or even silk, cannot afford within them as suitable a lodgment for wandering germs; nor do they afford nourishment. Catgut does both. As it softens, swells, and begins to be absorbed, it becomes the best possible pabulum for the support of bacteria. As a natural consequence, they multiply rapidly and in safety, producing local abscesses or general infection.

Such conditions could not be met with if the sterilized suture remained uninfected after its introduction; but, unfortunately, the blood stream itself contains many pathogenic organisms. These are incapable of rapid increase, being disposed of as soon as found by the active phagocytes. Though entering the body continually by the alimentary canal, or other portals, they are short-lived while in the blood, or in sound tissues; but when they come in contact with the catgut ligature, they find more favorable conditions. Particularly is this the case, if the ligature or suture is imbedded in torn or bruised tissue; if there is not sufficient drainage; a slow or stagnant blood current; and if the patient suffers from lowered vitality, or is an alcoholic, syphilitic or tubercular.

I therefore deprecate the use of catgut in most accident surgery particularly railroad and machinery, and when in operations

of election, much tearing has been necessary, or the patient is of feeble resisting power.

In a clean-cut wound, rapidly made and rapidly closed, with free drainage, where drainage is required, and with a pure-blooded patient, nothing can be as satisfactory as catgut.

THE PATHOLOGY AND TREATMENT OF CHRONIC VARICOSE ULCERS OF THE LEG.

By ERNEST LAPLACE, M.D., LL. D.,
OF PHILADELPHIA.

Professor of Surgery and Clinical Surgery in the Medico-Chirurgical College; Surgeon to the Philadelphia and St. Agnes' Hospitals.

Chronic varicose ulcers of the leg form a class of cases which not only haunt hospital wards, but are a burden and lasting reproach to the surgeon. Only those who have dealt with a great number of these cases can realize the amount of careful treatment they demand in order to reach any degree of improvement, and only these can realize the disappointment and discouragement that follows a return of the trouble soon after the improvement. In order therefore to apply the rational treatment to these rebellious sores, we must first consider their pathology.

The varicose ulcer is appropriately named such because it depends for its existence upon a serious disturbance of the superficial circulation of the leg. This disturbance results from the dilated and weakened condition of the veins, producing a certain amount of stasis, distending the skin, causing an œdema, which requires but a very little traumatism to produce an excoriation, which is the starting point of the ulcer. If we inquire as to the initial cause of varicose veins we are confronted with a very obscure problem in pathology, and can only say that the walls of these veins are weakened by a process of malnutrition, resulting from an impaired condition of the whole

system. The veins are weakened most probably in the muscular coat, the column of blood which they are intended to support excites a stronger pressure within their calibre than they are able to withstand, and as a result dilatation ensues. This dilatation renders the valves of the various veins almost useless in supporting the column of blood, and the veins acquire at times an enormous distension. An erect posture, and especially such vocations as require constant standing, tend to aggravate the pathological conditions just described, and as a result from the time a slight traumatism or excoriation has removed the epithelium from the passively congested limb, an ulcer exists whose tendency is, by the impairment of the circulation, to grow constantly larger, and to be accompanied by venous hemorrhages.

The effort at repair on the part of nature immediately results in the formation of granulations and cicatrization. On the other hand, infection sets in, and suppuration complicates the case. In the acute stage these ulcers are soft and tender, and rather hemorrhagic, but after having existed for months or years, the chronic irritation of the edges of the ulcer and the neighboring parts results in the formation of fibres within the surrounding cellular tissue, whereby a hard, callous condition results. This hardening further impairs the circulation, so that in time the varicose ulcers possess a dull pink, glazed appearance, showing a great lack of blood about the parts. This scarcity of blood is due to the compression of the neighboring parts by the chronic inflammation which accompanies the ulcer.

For years in hospital and private practice, we have given special attention to the treatment of these ulcers. Our chief dependency has been the application of the modern principles of asepsis, combined with rest. Having treated the patient so as to improve his general condition, we proceeded under ether to remove freely the edges of the ulcer and scrape its surface, transforming the ulcer into a healthy wound. The patient was then

kept at rest in a recumbent position so long as was required to entirely heal the ulcer. The wound was dressed at proper intervals, so as to maintain it constantly in an aseptic condition. In a majority of instances, by dint of great efforts, we succeeded in healing the ulcer. The patient would be advised to wear an elastic stocking, and to keep off his feet as much as possible. It was impossible in many cases to follow this advice, inasmuch as most of the patients belonged to the laboring class. As a result, from use of the limb, we often found that the place where the ulcer was located became congested, blue and swollen, reproducing the same old ulceration. It is in these cases that both patient and surgeon feel so discouraged.

Analyzing these unfortunate cases we find that the treatment of the ulcer was based on the proper principles. We removed the cause of the ulcer by placing the patient in bed, eliminating the passive congestion which accompanies the varicose vein. The ulcer was healed by removing the infectious element and transforming it into a healthy aseptic surface, whereon nature was enabled to build fibrous tissue and cover it up with epithelial cells. So far everything was correct and the indications of treatment were properly fulfilled. But from the time the patient was allowed to walk again, and the same original cause was again at work, it was natural that the effect should also be the same, and show itself in the return of the ulcer. The weak point in the treatment therefore, was the fact that the varicose veins and their effect were not permanently eliminated. We therefore concluded that the removal of the cause, that is, the cure of the varicose veins, should be the initial step for the successful treatment of these ulcers, and therefore advise that all the superficial veins of the leg be ligated and obliterated as the first step in the treatment. The treatment of varicose ulcers of the leg, acute or chronic, to-day should resolve itself into a radical cure of varicose veins of the

leg, and as a result the ulcer will immediately take a tendency to heal, and will require only ordinary attention to help the healing process. Furthermore, the cause being removed in the complete obliteration of all the superficial veins, the ulcers once healed remain permanently so, allowing the patients to attend to their work with impunity. For the obliteration of the veins, I have performed one of two different operations according to the nature of the varicose vein. In some instances the superficial veins of the leg are persistently dilated as well as the long and short saphenous veins. In these cases a cat-gut ligature is applied to these veins as they enter respectively the saphenous and popliteal veins. This method was advised by myself in the year 1892, and has met with success in this class of cases. Inasmuch as these two veins drain the whole of the venous circulation, their ligature results in a simultaneous stasis and coagulation of blood within all these superficial veins. Their obliteration soon follows. On the other hand when great masses of enlarged veins form on the limb, and do not affect the saphenous vein above the knee, I practice Schede's method, which consists in making a circular cut, about two inches below the knee, and directly through the skin, separating all the veins as they present themselves, clamping them, and subsequently ligating them with cat-gut. The circular cut is then carefully sutured. This is the most effective method of stopping the superficial venous circulation, and obliterating the veins, which hampered the process of healing. These wounds, after the obliteration of the veins, heal most kindly when thoroughly aseptic, and from the first the operation exerts a beneficial effect upon the ulcers. They immediately acquire a more healthy appearance, and granulations set in which effectually build tissue, while the surrounding epithelium grows and covers the ulcer, completing the healing process.

The combination of an operation for the obliteration of the venous circulation and

the proper local treatment of the ulcer according to modern surgical methods fulfill all the indications in this rebellious class of cases. Since we have adopted this method we have obtained very flattering results in the most obstinate, old and callous ulcers at the Philadelphia Medico-Chirurgical and St. Agnes' Hospitals, during the last three years. A series of 18 ulcers of the worst varieties healed and remained so. A detailed description of the cases would be rather tedious, since the principles involved in each one are precisely the same, and only require such modification as the peculiar location and character of the sore may demand.

We believe that syphilis and tuberculosis may complicate at times these varicose ulcers, hence we should never lose sight of the diathesis under which the patient may suffer, so as to eliminate it by the proper treatment before the surgical aspect of the case is undertaken. In syphilitic ulcers accompanied by varicose veins we have given a general mixed specific treatment in addition to a local application of a salve consisting of ammoniated chloride of mercury, 5 gr. to one ounce of vaseline.

When the sore has taken a healthy appearance, and the tissue seemed comparatively free from specific poison, the operation upon the varicose veins, was then undertaken, not before. In tuberculous ulcers, complicated by varicose veins, a general tonic treatment was given consisting of the syrup of hypophosphites and a local application of iodoform powder. We always take care, however, to first remove all diseased tissue by the curette, and paring the edges of the sore. When the healing process, after the wound had taken a healthy character, seemed slow, threatening to take a long time before the epithelium would spread over the edges and cover the surface, skin grafting was practiced, according to Thiersch's method. The granulating surface was thereby covered thoroughly with epithelium, and in the course of two or three weeks would be completely healed.

This process of skin grafting consists in removing large strips of epithelium from the thigh in the following way: Having rendered the strips aseptic it is made tense by being supported between the thumb and the middle finger of the left hand, using an ordinary razor or sharp knife, the instrument put at an angle of 20° to the thigh and practicing a see-saw motion, the epithelium is removed without, if possible, penetrating below the papillary layer of the skin. These strips of epithelium may measure $\frac{1}{4}$ to $\frac{1}{2}$ inch in width, and 3, 4, or 5 inches in length, according to the necessities of the case. Aseptic gauze is applied to the spot whence the epithelium was removed and secured by a bandage. This will suffice as treatment for this excoriated surface. The strips of epithelium are made to cover the ulcer completely, and are secured in position by several thicknesses of sterilized gauze smoothly laid over the parts.

Should suppuration, however, set in, and the life of the grafts be in danger, this danger is overcome by various layers of the gauze being detachable so that when the dressing is removed all the layers of gauze are taken away except the lowermost layer. In this way the growths are not disturbed. The secretions and pus can be removed effectually through this lowermost layer of gauze.

Peroxide of hydrogen will clean the wound thoroughly through this one layer of gauze, and the application of any antiseptic solution is made possible without disturbing this last layer. In this case it becomes necessary to repeat our antiseptic washing at least every day. At the end of a week or ten days, it will be found that all of the grafts have adhered, whereas, should all the dressings have been removed when there was evidence of suppuration, usually on the third or fourth day, these grafts would have been sacrificed.

We believe this to be a very practical point, essential to success in a great number of cases. From experience we have found

that it is not always possible, in spite of our best endeavors, to maintain an aseptic condition of the ulcers, especially if they have been grafted. A light bandage applied to the limb for a short while before the patient is allowed to get up, suffices to complete the treatment of what has for a long time been a very distressing condition, both for the patient and for the surgeon.

DISCUSSION.

Dr. L. J. Hammond, Philadelphia: I think it important where there is an extensive varicose condition of the veins of the lower extremities, to anticipate the ulcers by early ligation of these veins; after, however, the ulcer has formed, I doubt much whether simple ligation will go far toward their healing. The ulcer usually being the result of the loss of nutrition about this site, makes it imperative, I think, if prompt healing is to be secured, in addition to ligation of the veins, to remove all the necrotic tissue by curettement, followed by free incisions into the dense lymph wall that usually surrounds it. Then with strapping and support to the limb, furnished either by a plain roller bandage or a silk elastic stocking, will be secured union, and quite promptly, rest of course being essential under all conditions.

EXCISION OF THE THYROID GLAND.

BY T. C. DETWILER, M.D., OF LANCASTER.

The thyroid belongs to the class of ductless glands. In health it weighs from one to two ounces and is of a brownish red color. It is a bilateral gland connected in the median line of the neck by a narrow isthmus. In front it is covered by skin, platysma and superficial fascia, the sterno-hyoid, sterno-thyroid and omo-hyoid muscles. Its lateral surfaces are in contact with the carotid artery and jugular vein on the outside and inside with the trachea, larynx and œsophagus. Its blood supply is very large. The superior thyroid from the common carotid; the inferior thyroid from the innominate; sometimes there is a median branch. The veins are very large, thin walled and form a plexus on the surface of the gland; they form very frequent anastomoses.

As the scope of this article is too limited to refer to the various pathological conditions of the gland, I will immediately proceed to the indications for operation, as given by Jacobson. Briefly epitomized they are as follows:

1st—The failure of previous treatment.

2d—Dyspnœa sufficiently constant to prevent the patient from following an active employment, or inability to bend the neck in sedentary employment.

3d—The existence of tracheal stridor or extension of the bronchocele downward.

4th—Attacks of sudden suffocation dyspnœa.

5th—Difficulty of deglutition.

6th—Steady or rapid enlargements with or without dyspnœa, with threatened growth downward and a tendency to become sub-sternal.

7th—To improve the personal appearance.

It is needless to caution after what has been said about the anatomical position of this gland, situated in the most dangerous part of the neck, surrounded by the most vital tissues—that the operation should never be undertaken lightly and when undertaken at all only by a surgeon who has the utmost confidence in himself and is fully prepared to meet all emergencies. Sir William McCormick once said the most difficult operation he had ever undertaken was the removal of a large bronchocele. The operation lasted over two hours and over one hundred ligatures were used. Still I feel assured that in the future many more thyroids will be removed than in the past, and the common sight of persons disfigured by an unsightly goitre will become exceedingly rare. Why wait for a growth to become a great disfigurement and a menace to life, when in proper hands an early operation would be practically without danger? Without wishing to seem radical, I still think all goitres in young persons after proper treatment for six months or a year that do not show a mark of decrease, or if there is

any tendency to growth, should be removed.

The counterindications he gives:

1st—High bronchoceles, especially if broadly fixed.

2d—Calcified bronchoceles.

3d—Those with ill defined limits.

4th—Those that are substernal.

5th—Those occurring in persons over 50 years of age.

6th—Those occurring in persons with very feeble hearts.

The dangers of the operation are:

1st—Hemorrhage, which, though great, can usually be overcome by care. The danger from hemorrhage is not from the arteries but from the veins, which are unusually large and thin walled, and in severe cases forming a perfect network over the surface of the gland.

2d—Injury to the recurrent laryngeal nerve—an accident that has happened a number of times, giving every operator much anxiety until the fact has been ascertained surely that it has escaped injury.

3d—Septic cellulitis. This most grave and fatal complication can now be almost entirely eliminated by careful attention to every aseptic detail.

4th—Myxœdema. This complication can be avoided by leaving a part of the gland and isthmus behind, as in almost all cases we are able to do, but if such should be impossible I can see no reason why we should not have as perfect control over this disease artificially induced, as we have by the use of thyroid extract in idiopathic cases in general practice.

THE OPERATION.

Place the patient on his back with a sand bag or hard support under his neck, shoulders well raised. The chin should be kept in line with the sternal notch. The anæsthetist stands at the head of the table. Chloroform should be used, as ether causes too much engorgement of the veins of the head and neck.

A free incision should be made—an incision that will freely uncover the lobe.

Kocher makes a Y-shaped incision but generally this will not be necessary. A straight or one slightly curved will usually answer, and the resulting scar will be almost hidden by the fold of the sterno-mastoid—a matter of no small moment with female patients. The skin, platysma and fascia are now divided. The veins that are met with are secured between double ligatures and cut; the muscles on the surface of the gland are ligated and divided. They are often very thin from being stretched over the enlarged lobe. If necessary the sterno-mastoid can be cut, but it can generally be separated and pressed to one side with the carotid artery and the jugular vein. In dissecting out the lobe use an Allis blunt dissector, or a periosteal elevator. In using these instruments, use absolutely no violence, but the utmost gentleness. A blunt pointed pair of scissors, curved on the flat, will be found very useful. Use the knife as sparingly as possible, the handle will be much more useful than the blade. Cut no tissue until it has been thoroughly examined. A vein on the stretch can easily be overlooked and cut. The amount of hemorrhage from even a small vein is truly surprising. It is a good plan to frequently raise the head so that the veins can fill and become easily visible. The veins form a plexus over the lobe and each must be secured between double ligatures and cut. Hæmostats cannot be trusted as in most cases the vein-walls are too thin to hold. Step by step the front of the gland is cleared. The next step is to clear the lateral margins and ligate the arteries. The superior thyroid is much the easiest to secure, entering the gland from the top. Secure it between double ligatures and cut, using an aneurism needle if necessary. The next step varies according to the operator, Treeves going down and tying the inferior thyroid and the median if it exists. Jacobson urges attacking the isthmus which is probably the better plan. A steel director is passed between the isthmus and the trachea and it is either ligated as a whole, or

cut and the bleeding points ligated as found. The hemorrhage in either case, with care, is trifling. It will be found a good plan when ligating the isthmus to leave as much healthy gland tissue as possible, encroaching on the tumor as far as the healthy gland tissue will admit. By doing this if it is necessary to remove both lobes there will still be left the isthmus and a little healthy gland tissue on each side and so the danger of myxœdema will be avoided. The gland is now turned from side to side lifting it from its bed, slowly proceeding downward. Make as little traction on the trachea as possible in freeing the internal surfaces as it is apt to cause intense dyspnoea. The attachment between the lobe and trachea is often very firm and requires the use of knife or scissors frequently. Ligate each bleeding point as it appears until the lower limit of the growth is reached, when the most dangerous and difficult part of the whole operation is before us, viz.: ligating the inferior thyroid and endeavoring not to injure the recurrent laryngeal nerve. Baumgartner and Crede recommend ligating the branches of this artery as it enters the under part of the gland, as by so doing you are as far as possible away from the nerve. Sir Wm. McCornick also thinks well of this plan.

The gland being removed and all bleeding stopped, close with silk worm gut sutures. Lightly pack the lower part of wound with sterile gauze for drainage. After applying the dressings the best way to retain them in position is by a bandage from the axilla below to the chin and head above firmly stitching it to keep it in place. In case there is enlargement of both sides the surgeon is not justified in immediately removing the other side, but should wait for two or three months to see what effect the work already done will have on the remaining lobe. I have no theory to offer or explanation to give as to the why or wherefore but the fact remains that when one lobe is removed the other frequently atrophies. This is well illustrated in the case of the

young man who will be shown you this morning, and whose history is as follows:

M. P., aged 22 years, of healthy parents; 1 brother, 7 sisters; all healthy. No family history of goitre. When ten years old first noticed growth in neck. It grew slowly but steadily. Did not respond to any treatment. When he was first seen he had a brassy tone of voice, husky brazen cough, had had three attacks of suffocative dyspnoea, one that almost proved fatal. Had coughing attacks that compelled him to rush into the open air to try to obtain relief. Had great difficulty in bending his head in order to follow his trade, that of a cork cutter. His neck measured $17\frac{1}{2}$ inches in circumference, which he could increase to 24 inches by straining. Both sides were about equally enlarged. The growth was soft and elastic with ill defined borders, extending from the angle of the jaw to the sternum.

On August 24, 1897, assisted by Dr. Theo. B. Appel, Dr. J. H. Musser giving chloroform, he was operated on. A goitre six inches in length, by eight inches in circumference, was removed from the left side of his neck. The fact that he could distend his neck from $17\frac{1}{2}$ inches to 24 inches will show the condition of the vein-walls. Some of them seemed as thin as tissue paper. It was absolutely impossible to use a hæmostat but each vein had to be ligated using very great care not to tie too tightly as the cat gut would cut through. The hemorrhage from a broken vein was very great but we succeeded in removing the whole lobe with the exception of some healthy tissue which, with the isthmus, was left. In the near future we intended to remove the right side which was fully as large as the left.

The wound was closed with silk worm gut sutures and iodoform gauze was lightly packed in lower part of wound for drainage. About two hours after operation I was hastily called to the hospital and found there had been a most profuse hemorrhage. Quickly cutting all stitches and opening the whole wound, I turned out a large blood

clot and found the ligature had slipped from the median thyroid. It was easily picked up and again ligated. The wound was hastily closed and an intra-venous injection of a pint of normal salt solution made and from a pint to a quart of the same placed beneath the skin of the breast and back. It was quickly absorbed, patient rallied nicely and was discharged in two weeks with wound perfectly healed, save the lower angle where the drainage had been.

Within two weeks after leaving the hospital the decrease in the other lobe was readily perceptible and within three months it almost entirely disappeared. For a few months he was unable to speak in a loud tone of voice, but now it has fully regained its former volume.

ONE HUNDRED MORE MASTOID OPERATIONS.

BY B. ALEX. RANDALL, M. A., M. D.,
OF PHILADELPHIA.

Six years ago I prepared for the Harrisburg meeting of this Society, a paper upon my experience about that time in disease of the mastoid, including 32 operated cases and about 100 in which such intervention was escaped; but being unable to present it before you, I read it before the American Medical Association at Detroit instead. As my later experience embraces upwards of 100 operations and more than 500 unoperated cases, it ought to be possible to draw from this material some data and suggestions perhaps interesting and helpful to you.

Much has been written upon this subject; but it will be long before the last needful word has been said; and between the rash and the timid counsels offered there are many variations of reasonable opinion which each one of you may have to weigh in critical yet doubtful cases. So long as influenza continues to reappear among us, there will be many cases of severe ear-inflammation; and when it dies out, the exanthemata will still furnish no small number

involving the mastoid or the still more dangerous structures of the aural region. Careful consideration of the matter is, therefore, well in place for all of us.

Beginning with the proposition that inflammation of the naso-pharynx is the starting-point of almost all of these affections, it ought to be needless to urge the demand for prompt and rational treatment of this side of the matter, however much with it "familiarity has bred contempt." This source of trouble may often be removed as a farther factor in the case by mere spraying and gargling with cleansing and sedative solutions; and it is culpable to neglect it because there are more important features already present. Then, as the height of the tympanic inflammation is the main danger to the ear, this is to be sedulously controlled and guided, if possible, to a safe issue. Rest in bed, with general antiphlogistic measures can do much, at least for the avoidance of excipients; while vigorous hot applications, by dry heat to the mastoid surface and douches in the canal as hot as can be borne, are certainly often efficacious for cure as well as for relieving the pain. Blood-letting in the early stages by leeching and by incision of bulging and threatening areas of the drum-head or canal-wall, has also great value; but are more difficult matters to use with safety than the text-books would indicate. Under due precautions the opening of the drum-cavity ought to be harmless, if not as helpful as is claimed; yet in point of fact the requirements of safety are not always attainable. Even when they really are, all unfortunate results may be ascribed to the intervention which merely failed to prevent them; and thus surgical interference may be discredited just when it has become a matter of life and death. Hence one should be morally sure that need of this sort is actually present in the case before him—not merely feel that somebody else will lay it down as a proper procedure or find fault with its omission in the case. There is almost no step advocated by any authority in this matter which

is not open to cavil and adverse criticism by others; so one need not expect to go unblamed, whatever he may do or leave undone.

Cold over the mastoid is strongly urged by many authorities and has its rational use; but I believe it inferior to hot applications as a preventive of inflammatory stasis and as a conservator of threatened tissues. Many a case that gives no promise of resolution will make quick recovery under these measures—the quicker probably, if we refrain from blistering and the Wilde's incision. The latter as a means of evacuating pus-collections upon the mastoid surface has its plausible justification; but as this pus is rarely formed where it is found, but is the overflow of that which fills the mastoid cavities and may be penetrating unrelieved in far more dangerous directions, mere incision of the soft parts is very rarely more than a very partial step in the right direction. The caries of the bone may proceed safely to the removal of all that is doomed (and no more), and with fair promptness—the result may be as good as that more rapidly gained by operation; but this will rarely occur, and can never be foreseen.

Many cases may present a disquieting increase of edematous involvement just as they verge on perfect resolution; more will show an apparent gain in lessened pain, fever, swelling and tenderness just when the pus is finding escape upon the dural surface; and it is easy for the surgeon as well as for the patient or his friends to be misled by this specious gain. Conservatism and expectancy have their place so long as there is no pus except in close proximity to a perforation at the drumhead; so soon as we have pus demonstrably present in an ill-drained or closed position there is no excuse for sanguine inaction. While doubt remains as to the presence of pus, only antiphlogistic measures are called for; and spread of edema or tenderness, unaccompanied by more urgent symptoms, need not shake this

position. Experience will enable one to do some very shrewd guessing as to the unseen conditions and to make an accurate diagnosis from very inconclusive signs; but all of this is merely tentative and may need total revision.

As soon as fluctuation is felt or the rational signs of the presence of pus are recognized, all temporizing should cease. Prompt evacuation of the pus and search for its source are the only proper measures; and such exploration may be called for before any definite signs have appeared, if the conditions are so alarming as to threaten life. Meningitis has yielded few triumphs as yet to intra-cranial surgery and the wisdom of attacking it surgically has yet to be demonstrated; but all of the other serious lesions of this field ought to be helped if not cured by skillful intervention. So the dangers of surgery should be small—although not slight enough to justify any operation not clearly demanded by the needs or uncertainties of the case in hand.

However certain the surgeon may be that pus and caries are present, he can never actually foresee the extent of the lesion and the full urgency of the intervention. The simplest looking case may reveal extensive uncovering of the dura mater of the sphenotemporal and cerebellar fossae, often with pachymeningitic granulations on the dura, including the wall of the lateral sinus. Yet there may have been rather a short and acute history and the first step of the operation may have revealed a large collection of pus on the mastoid surface, without visible lesion of the underlying bone—the sort of case which we are sometimes assured should receive nothing more than a Wilde's incision. Nearly half of all my recent cases have showed extension of the disease as far as the dura, if not positive extra-dural abscess and pachymeningitis; and among them a dozen most interesting findings might be detailed, did time permit. One of the latest gave no sign of irreparable involvement during three weeks after free incision of his

drumhead; then he suddenly grew worse with decrease of the discharge but no demonstrable fluctuation of the more tender and swollen mastoid. He was put to bed for operation and found next day much relieved, but with a trace of fluctuation over the antrum. The exposed bone looked healthy and the two or three drops of pus were almost unseen in the bleeding. Yet after his thick cortex had been carefully chiselled off and the cavities found full of pus and granulations, the mere touch of a probe penetrated the rotten wall of his bare lateral sinus and the gush of blood compelled instant tamponning. A large fistulous tract was found into the insertion of his sterno-mastoid, with pus not yet penetrating the digastric fossa, where I had expected to find it. No chill and little fever may appear to aid the diagnosis; the eyegrounds may afford as in this case no indication of intracranial mischief; yet conditions of eminent danger to life be rapidly progressing. So let us make it a rule in these cases to operate only when reasonably sure of the need; but if we set our hands to the work, let us do it as thoroughly as there is any indication for. Make a clean sweep of all diseased tissues which can be removed, trust no unimportant structures that are of doubtful viability and explore every sinus, however far it may lead you.

As to the technique of the operation, too much, perhaps, has been written. Do the work in the way that promises the greatest safety, thoroughness and promptness. Boring instruments are not safe in this variable field. A good gouge and a spoon can generally do all the bone-work after the free section has been made of the soft parts and the bleeding points are pinched. Give yourself plenty of room—a four-inch incision heals about as soon as a small one, if the deeper work has been well done. Bare the bone as widely as its due study makes desirable. Chisel away as much cortex as the needs or uncertainties of the condition call for; and do not end your work until you

have controlled all bleeding by pledgets or strips of gauze and seen as well as felt with finger and probe every portion of the cavity-wall. I generally make my assistant go over the field, when all seems done; and then return, rested, to the search to see if there be not some lesion which has escaped both of us. We thus found in a recent case a superficial fistula in the back of the bone-wound which led us into an extra-dural collection with a small cerebellar abscess beyond. It had some exit and might have drained safely; but I should have hated to take the chances. If a broad spoon is used, the thin wall of the dural surface may be dressed down very smooth with safety, and the dura itself may be scraped free of granulations even when, as in the case above cited, they are on the wall of the wounded lateral sinus.

In cases really acute, good drainage may suffice, although that does not justify incomplete and slipshod work; in those due to long-standing tympanic suppuration, even although the mastoid involvement has but a short history, it rarely suffices to clean up the mastoid only. The tympanic cavity should be emptied of carious ossicles, granulations and remains of drumhead, and the upper-back wall of the canal should be removed to open the antrum and attic freely into the meatus. If the anatomy is known, the facial nerve should never be injured unless caries of its canal exposes it in needful scraping. In a week or two the patient should be up and about; and the length of the after-treatment depends more on the physique of the patient and the completeness of the operation than on its extent.

DISCUSSION.

Dr. L. J. Hammond, Philadelphia: The importance of early operation within the mastoid bone, becomes more and more apparent as our clinical knowledge of the subject increases, and when I say "early operation," I mean the earliest moment at which the presence of pus can be detected, because I believe earlier than this, no operation is justifiable. There is probably no more striking illustration of its importance than

the fact that the tegmen tympani is so frequently found wanting, leaving, of course, under such conditions, the pent-up pus within the mastoid region, protected from the delicate underlying cerebral structures, only by the dura mater. Within the past month, in a case of double mastoid operation under my care, the tegmen was entirely absent on both sides. While I do not wish to be understood as considering this a more common condition, I still feel that as our experience grows, we learn that it is not so uncommon as it was some years ago, supposed to be.

A point of considerable interest to me, and I believe of considerable importance, is the fact of the powerful resistance shown by the dura mater in preventing the invasion of the cerebral tissue by pathogenic organisms. It has been repeatedly seen that the mastoid cavity, filled with pus, and complete absence of tegmen, cause no cerebral symptoms whatever, the pus having been thus so locked up for weeks. I feel, however, that the knowledge of the resistance that the dura offers to this invasion, should be no excuse for delaying cleansing the pus from this region.

Dr. L. J. Lautenbach, Philadelphia: I think the subject as presented by the reader of the paper is interesting and very important, not only from the standpoint of the specialist, but also from that of the general practitioner. I think the profession needs in these cases a more positive rule laid down for their guidance—something more definite and certain than we have had in the past.

It has been the fashion to operate on all such cases in the earlier stages, when we could not be sure of serious bone involvement. There have been two classes of ear specialists, the operative and the non-operative. I am glad to find that the doctor now chooses the middle ground and no longer advocates an operation in every case, but believes that some cases can be cured without an operation. For years I have occupied a middle ground, believing, however, that all cases, or nearly all cases, that develop into mastoid disease are preventable and curable without operation, provided they are properly treated in the earlier stages. There was in the past, a great tendency to treat these cases surgically only, and we would hear more of criticism than of praise, when the healing principles of the persistent heat treatment, thorough cleanliness, and attention to the general health were laid down.

This is all right so far as some cases are concerned, but in more inflammatory cases, when the mastoid is seriously involved, I think operation is certainly indicated, and if it is not done early, you will soon have your patient in such condition that even an operation is of doubtful utility.

THE REPORT OF A CASE OF UNILATERAL CASTRATION, WITH ITS EFFECT ON THE PROSTATE.

By J. R. CARE, M. D., OF WORCESTER.

It is now more than five years since Dr. J. W. White called the attention of the profession, in a paper read before the American Medical Association, to the value of castration as a therapeutic measure in hypertrophy of the prostate, since which time operators all over the globe have resorted to it, some meeting with satisfactory results, others with indifferent success.

The evidence as to unilateral castration, presented by Fenwick, of London, is rather negative, but there can be no doubt, say Keyes and Tuller, in the *Annual of Universal Medical Sciences*, that in some cases it is followed by unilateral atrophy of the prostate, and in two cases it has resulted in a very marked improvement of symptoms.

The case, the history of which I am about to relate, furnishes another and very excellent example of a case of unilateral castration, followed not only by marked improvement, but by absolute immunity from all distressing symptoms for over two years.

I have not been able to get the history of another case that has been observed for so long a period of time.

Mr. Chas. C., aged 67 years, had been troubled with periodical attacks of retention for six years, the attacks becoming more frequent each year, lasting from a few days to a few weeks.

During these attacks the catheter was used from three to four times in twenty-four hours. The bladder was washed out with boric acid solution as often as seemed indicated by the severity of the cystitis. He had been given all remedies that have been recommended for hypertrophy of the gland, and in spite of all treatment the attacks became more frequent and distressing.

In the winter of 1894 and the spring of 1895 the attacks were so frequent that he

became a physical wreck, unable to follow any vocation, and manifested a tendency to melancholia. In June, 1895, he had an attack of retention, during which his urine was highly colored with blood. There was marked cystitis and fever; the latter we attributed to septic absorption. There was no evidence of kidney implication at any time. Following this attack the cystitis persisted for some time, but finally yielded to repeated flushings with boric acid solution.

In December, 1895, he had another attack of retention, and accompanying this attack he had orchitis, which terminated in suppuration. We then advised castration, since it was clearly indicated.

Accordingly, after having complied with the ordinary antiseptic technique, assisted by my associate, Dr. E. G. Kulbel, we removed the left testicle on December 19, 1895. The wound healed by first intention, and the patient was out of bed in ten days. There had been a manifest enlargement of the entire prostate, and particularly of the so-called middle lobe, which felt as large as a small egg through the rectum.

Two months after the operation this lobe was appreciably smaller, and now is not discernible. So far as I can learn by rectal touch, there is no difference in the lateral lobes, both being quite large and flat on their under surface. The gland seems to fill in the pubic arch, and has an antero-posterior diameter of about one and a quarter inches. It will be seen from the foregoing remarks that the operation was not undertaken primarily with a view to reducing the prostate, but to relieving the suppurative orchitis. Since, however, the patient's retention symptoms disappeared as by magic, we began to study the condition of the prostate more carefully and with the foregoing results.

He is now and has been ever since the operation well, both mentally and physically, making a full hand at his vocation,

that of farming. He has not had any inconvenience since the operation, with one exception, when two months after this he could not pass his water voluntarily for one day, and the catheter was used twice. He exposes himself to all kinds of weather, and is very indiscreet in many ways, yet remains free from any of his old and troublesome symptoms. The most natural inference is that the removal of the testicle had a beneficial effect upon the prostate gland, inasmuch as there has been marked diminution in the size of the latter and especially of the middle lobe. I feel convinced, from what I can learn from the literature of the subject, that in suitable cases it is the most promising means we have of relieving this class of sufferers. Bilateral castration has been performed quite frequently with flattering results, the gland undergoing marked atrophy in about 87 per cent. of the cases, with the disappearance of the most unpleasant symptoms. The natural repugnance of all patients to the double operation is not to be wondered at, nor do I think that we should advise it indiscriminately, as we are wont to do with so many new things. Dr. White calls especial attention to this, and points out very clearly the indications for the various operative procedures, not laying much stress on the unilateral method, but counseling its further trial. Since it is conceded by all observers—and Dr. White's experimental work also confirms it—that the removal of both testicles causes marked atrophy in a short time, we are led to believe, *a priori*, that unilateral castration will cause partial atrophy, and therefore this should be the operation of election in the earlier stages of periodical retention, both for ethical and sentimental, as well as scientific reasons. In the first place, it is a very simple operation; and, in the second, we could gain the consent and co-operation of the patient more readily, hence could resort to it earlier. It should be resorted to in cases of periodical retention, and not in

old cases where the gland is enormous, and the catheter has been used for a long time. When we consider the prevalence of pathological hypertrophy, which is estimated to affect one-tenth of all males over fifty-five years of age, we recognize the necessity of having some therapeutical means of relieving them, be that bilateral or unilateral castration, prostatectomy, prostatotomy or cauterization. In reviewing the literature of the subject, it is apparent that each has its field of applicability, and we think each should be resorted to where indicated, as has been pointed out so specifically by Dr. White. The experience I have had with this one case, while nothing from which to deduce conclusions, is still so flattering that I feel very keenly the advisability of resorting to it early in suitable cases, rather than waiting until some more formidable procedure must be resorted to.

I verily believe that by so doing we will be spared the necessity of resorting to the more serious operations. If this paper shall be the means of inducing others to investigate the subject, I shall feel that I have been justified in bringing the subject before you.

DELAYED OSSIFIC UNION IN FRACTURES OF THE LEG.

BY S. BIRDSALL, M. D., OF SUSQUEHANNA.

The time required for the repair of fractures of the tibia and fibula, sufficient to sustain the weight of the body, is stated, by most authorities, to be from four to eight weeks. This, no doubt, is correct, in regard to some cases, where every possible circumstance controlling bone formation is favorable.

I had practiced but a few years, however, when I began to observe that a much longer time was required for the fractured tibia to regain sufficient strength to sustain the patient's weight than I had been led to suppose. At first I was not a little disappoint-

ed and annoyed at the slow progress of these cases.

Subsequent experience, including many years' practice of what is called railway surgery, has convinced me that these slow cases of ossific union, in fractures of the leg, are of frequent occurrence.

I have not had opportunity to examine and study microscopic sections of fractured tibiæ, at varying periods of weeks or months from date of injury, and thus learn the progress of repair.

I view the subject from the clinician's standpoint. I present the facts as I have observed them in general practice, and shall be interested to learn whether the experience of other surgeons corresponds with mine. If, as I have suggested, the time for repair of injuries of the bones of the leg is frequently protracted beyond the time usually regarded as sufficient, it is important that the profession generally recognize the fact; the prognosis will be rendered accordingly, and the patient and the physician less frequently disappointed.

It is also important that the young, or comparatively inexperienced, practitioner, appreciate this circumstance, and persevere with treatment, not giving up his case, or regarding it as one of non-union. Rotation of the foot outward or bending of the bones with resulting deformity, might occur if the slow progress of ossific union is not duly regarded, and such deformity guarded against, by the continued use of suitable appliances. There are various causes of delayed union of fractured bones, such as cachectic condition of the system, alcoholism, interposition of muscular or fibrous tissue between the fragments, multiple fractures, imperfect adjustment, incomplete immobilization, etc.

Excluding all these conditions, observation has led me to conclude that ossific union in fractures of the leg, and especially of the tibia, is frequently protracted much beyond the limits ordinarily allowed. In-

stead of six to ten weeks, twelve to sixteen weeks are required, and not infrequently a considerably longer period.

How are we to account for this slow repair? There are two factors which I think may contribute to this result:

1. It has been stated by good authority that the provisional callus is much greater at points where the bone is surrounded and well covered with muscular tissue. At least one-third of the surface of the tibia has no muscular covering, being covered only by integument and the subcutaneous cellular tissue. The size of the provisional callus is the measure of the reparative material provided for repair of fractures. It is well known that where adjustment and immobilization are perfect very little provisional callus appears. Splintering and beveling of the ends of the fragments often render perfect coaptation impossible. It is probable that in fractures of the tibia favorable conditions for securing union without the aid of the provisional callus occur only in the minority of cases. Therefore, the fact that so large a surface of the tibia is subcutaneous is not an unimportant factor in the causation of delayed ossific union.

2. The second factor is the distance of the injury from the center of circulation. No part of the body suffers so early, and so much, from feeble circulation of the blood, as the distal portions of the lower extremities. The varicose condition of the veins, the discolorations, the frequent œdema and lowered temperature, all point to sluggish circulation and consequent lowered vitality.

The objection might be raised, that if distance from the heart were an important cause of delayed union in the fractures we have been considering, then we should find the same slow reparative process in fractures of the bones of the foot. I answer, it is quite probable that close observation will prove that such is the case.

Various circumstances render such observations difficult. Fractures of the tarsal bones are rare, and delayed or imperfect os-

sific union difficult to detect. As the metatarsal bones sustain but a small fraction of the weight of the body, some degree of mobility at the point of fracture, of almost any one of these bones, might exist with scarcely any interference with locomotion. Patients with fractures of the phalanges of the foot have been known to continue walking almost from the date of injury. For the reason that imperfect or unossified union of fractures of the metatarsals and phalanges interferes so little with the usefulness of the foot, special observation and inquiry has not as yet, to my knowledge, been directed to ascertain, whether delayed union in such fractures, is of frequent or rare occurrence. I suspect they are frequent, but further observation is needed to determine this point.

I will now report a case of delayed union in a compound fracture of the leg. My object in reporting it is not so much to present it as an example of delayed union (for it might be objected that repair of such a complicated fracture would be slow in any region of the body), but to show the value of perseverance in treatment:

S. L. H., a man aged about 35 years; rather slender physique; height, five feet six inches; weight about 135 pounds. A heavy lumber wagon wheel passed over his right leg, fracturing the tibia two and a half inches above the ankle-joint, and also at a point five inches higher up. The proximal fracture was compound and somewhat comminuted; ends of fragments quite irregular; the displacement complete; soft parts extensively lacerated and contused. The distal fracture was somewhat oblique, but not compound. The fibula was fractured about five inches above the ankle, and so extensively comminuted that when the loose fragments were removed, the ends of the upper and lower fragments were nearly an inch apart. The large blood vessels and nerves were not severed.

Ether was administered; the wound near proximal fracture of tibia was enlarged; several spiculæ of bone removed; the frag-

ments adjusted. Considerable extension and manipulation were required to reduce this fracture. The line of fracture was nearly transverse, and when once reduced there was very little tendency to re-displacement. It was also necessary to enlarge the wound communicating with the fracture of the fibula, and remove several loose spiculæ of bone. The wounds were dressed with iodoform and iodoform gauze, bichloride gauze, and plenty of bichloride cotton to absorb the oozing blood, etc. Over this was placed a plaster-of-paris bandage, which was cut open the next day, and separated sufficiently to allow removal of the saturated dressings. The antiseptic gauzes and cotton were replaced as before. The antiseptic dressings were renewed as they became soiled; for the first two weeks at intervals of two or three days. As the wounds healed and the discharge diminished, the dressings were changed once in two to four weeks.

At the end of ten weeks the union of the distal fracture was quite firm. Union of the proximal fracture was progressing, but the bone bent easily at the point of fracture. The wounds of the soft parts healed quite promptly. Patient moves on crutches and is able to come to my office, a distance of four miles. Bears slight weight on injured leg.

At the end of four months union somewhat firmer. To preserve the motions of the ankle-joint, the plaster bandage was cut off just above that joint.

At the end of about the fifth month fluctuation was detected near proximal fracture and some serous fluid evacuated with the bistoury. The probe detected denuded bone. A small scale of bone removed from this point; at the end of six months union slowly advancing. At seven months patient able to walk with crutch and cane.

Ten months after injury a thin piece of necrosed bone two inches long and five-eighths inch wide was removed—under ether—from upper portion of middle fragment. Eleven months, walks with one

cane, but can walk a little without it. It was just one year before patient could be discharged.

The wound where the necrosed bone was removed had entirely healed. Union of both fractures of the tibia had become solid. The outline of the leg was normal—there was practically no deformity. The gap at the point of the fracture of the fibula appeared to have been filled in with a fibrous tissue. The ends of the fragment could scarcely be detected. Locomotion does not appear to be impaired by this weak point in the fibula. The motions of the knee are normal; those of the ankle are good, but, of course, not perfect.

Further suggestions as to treatment. I have already indicated the main points in treatment for cases of delayed union, but will now briefly formulate them:

1. Make the immobility as complete as possible. To accomplish this, I have never found anything equal to the well-applied plaster-of-paris bandage.

2. Persevere with the treatment. Encourage the patient to move about on crutches and secure the benefit of out-door air. Allow a nourishing and generous diet. More and more weight should be sustained as union becomes firmer.

3. Administer those medicines which supply bone-forming material, especially the hypophosphites. In the case above cited the patient took hypophosphites for months, with the effect of improving his general health, and no doubt contributing much to the final good result.

Elaterinum, U. S. P., is a neutral principle obtained from elaterium. Owing to its variable strength the latter substance has been dropped from the official list, and its active ingredient, elaterin, made to take its place. This is extremely active in the dose of about 1-40 to 1-10 of a grain. There is one official preparation, trituration elaterini (sugar of milk 9, elaterin 1), the average dose of which is about $\frac{1}{2}$ grain.

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OFFICIAL AND "REFORM" NAMES OF DRUGS.

There is much confusion in medical literature on the subject of the endings of the names of chemical substances, and especially of the names of alkaloids, salts and neutral principles. Thus, for instance, we have "morphine" and "morphin"; "bromide" and "bromid"; and many others of the same class. Improvements in nomenclature and terminology are always in order, but we fail to recognize a change for the better in some of the proposed alterations. There is, in fact, a very good reason why morphine should be written with the final "e," namely, that it indicates the chemical nature of the substance when of vegetable origin. The official English name of all alkaloids in the Pharmacopœia ends in "ine," while that of neutral principles, glucocides, etc., as, for example, "salicin and chrysarobin," end simply in "in." It is just as distinctive as the ending of their official Latin titles, which in the case of alkaloids is "ina" and of neutral principles "inum." An inconsistency is seen in the reformers when they would have bromide and chloride without the final "e," but permit it in sulphate, easing their conscience, however, by dropping the "ph" and replacing these letters with an "f."

Another source of confusion in medical writings is noticed in the use of the old names of the official alkaloids and their salts, viz., "morphia" and "morphiæ sulphate," etc. This was the official ending in the Pharmacopœia of 1870, but for almost two decades "morphina," "quinina," "strychnina," etc., have been the official Latin titles. The matter thus resolves itself into the following rules: Alkaloids, in the English language should end in "ine," in Latin in "ina"; neutral principles, in English, in "in," in Latin in "inum." Another rule introduced in the Pharmacopœia of 1890 is a change in the nomenclature in another direction, namely (to quote from the preface), "in the designation of chemical compounds (oxides, salts, etc.), in which it is now customary to put the basylous of metallic component first, viz., sodium chloride, silver nitrate, lithium bromide, lead oxide, etc., instead of writing chloride of sodium, nitrate of silver, etc. In the case of the salts of iron and mercury this change involved also the use of the respective terms in ous and ic (ferrous and ferric, mercurous and mercuric), which greatly help to distinguish salts heretofore frequently confounded."

The adoption of these rules by the Committee on Revision was based on sound judgment and experience, but their adoption by the rank and file of the medical profession has been slow. Indeed, obsolete names of drugs are often seen in college and State board questions, where, above all, the official titles alone should be made use of.

K.

THE RELATIONSHIP OF NERVOUS DISEASES IN WOMEN TO PELVIC DISEASES.

The discussions upon this subject during the past ten or fifteen years have been very numerous and have, upon the whole, resulted in a far better understanding of it than formerly obtained. It may be said that year by year the mutual understanding on the part of neurologists and gynecologists as to the relationship of nervous diseases in

women to pelvic disease has grown better. At the present time this understanding on the main points at issue (or formerly at issue) arrived at after long discussions and large accumulated experience seems so general and so sound, that it would seem that this question is now, in its material features, atleast, settled. But while agreement on this question is now very generally found between gynæcologists and neurologists, the two classes of physicians best able to judge, and who will naturally mould the opinion of the whole profession, it is still unaccepted and ignored in many quarters; and it can as yet hardly be said to be the consensus of opinion of the whole profession.

In a most admirable short paper (*Philadelphia Medical Journal*, July 16, 1898), Dr. J. M. Baldy states as a result of his large experience certain fundamental or primary propositions as follows: 1. We often see hysteria in individuals in whom the anatomic and functional condition of the sexual organs is wholly normal. 2. On the other hand, all sorts of diseases of the sexual organs may occur without the presence of hysteria. 3. Cases of hysteria in which cure has been effected, through local gynæcologic treatment alone, are rare. 4. There are women who have never been hysterical in whom hysteria has developed after gynæcologic treatment, and after their attention has been called to the condition of their sexual organs. 5. Many women are cured whose sexual organs remain unchanged.

These propositions probably receive the sanction of the great majority of gynæcologists and neurologists and it is not too much to say that they are a fair statement of the consensus of opinion among these two classes of physicians. A sixth proposition made by Dr. Baldy reads: "Chronic neurasthenia almost invariably produces a train of symptoms referable to the pelvic organs." This too contains a large measure of truth, but it is probably stated too strongly.

Dr. Baldy goes on to employ the follow-

ing vigorous language: "Are cystic and cirrhotic ovaries pathologic? I ask this question in all sincerity, and from the standpoint of these specimens as I have many times seen in jars, at society meetings, and have had them described to me, I just as sincerely answer them in the negative. Who has seen, more than rarely, an ovary that has not had one or more small cysts (hydrops folliculi) visible on its surface? Who has not repeatedly heard such an ovary pronounced cirrhotic, without even a pretense of a microscopic examination? I venture to say that nine out of ten of such organs removed are normal. By normal I mean that they are in no worse condition, as far as cystic and cirrhotic degeneration is concerned, than are the ovaries of the vast majority of women who never suffer a pain or an ache. What good can be expected from their removal, and oftentimes, what an amount of harm? But even here a word of caution is necessary. It is always well to bear in mind that actual disease at times exists co-incidentally with neurasthenia, hysteria, hystero-epilepsy, or insanity, the one entirely independent of the other. It is no infrequent occurrence to see the removal of a neoplasm or diseased appendages fail to affect the neurotic symptoms."

Bearing on the question of insanity Baldy quotes Alice Farnham who examined 30 insane women and 30 sane women of the same social class and found healthy pelvic organs in only six of the former and four of the latter. It may be safely asserted that pelvic affections are no more frequent in insane than in sane women, and when it is remembered how exceedingly common is the presence of some sort of pelvic disease in women generally, the opinion that any given pelvic disease is a cause of insanity or nervous disease should be advanced with great caution.

Opinion widely different from that of Dr. Baldy is held at the Maryland Hospital for the Insane, where of 100 women examined,

local lesions were found in 40, and in 30 of these the ovaries were removed. Four mental recoveries occurred, but from among the classes that are known to have the best prognosis, viz.: puerperal insanity, melancholia and simple mania. Indeed, given 30 women, suffering from these forms of insanity and the average amount of pelvic diseases besides, one could reasonably expect to see ten or twenty recoveries instead of four; and this with no pelvic treatment, but by the ordinary asylum care and treatment.

T. D.

DEATH OF DR. WILLIAM PEPPER.

The death of Dr. William Pepper, July 28, while not altogether unexpected by his intimate friends, comes with startling suddenness to the whole medical profession. His end came as a result of an attack of angina pectoris, while in California with the vain hope of recuperating his failing health.

Dr. Pepper unquestionably held the foremost position among American physicians, and his death touches with feelings of sorrow, not alone his personal friends and pupils, but every member of the profession to whom the higher principles in medicine are dear. As the head of the greatest institution of medical learning in America he has ever thrown his influence in favor of higher education, of liberal, philosophic grounding that characterizes the true physician. His death, at his early age of 55 years, indicates the activity and strain under which he labored. Recognizing his responsibilities, and possessing the abilities inherent in him, his end came in natural sequence, for all will agree that, measured by results, he died in the fullness of time.

His sphere of usefulness was unbounded, and manifested itself in many ways outside of medicine—in the encouragement of beneficial legislation, popular education, commercial progress, archeology and the sciences generally. In all his varied undertakings as teacher, author, diagnostician and practitioner he occupied a position of emi-

nence, and his influence in medicine will long survive him, and reflect honor on his native city and State.

K.

EDITORIAL NOTES.

THE INFLUENCE OF THE KNOWLEDGE OF HEREDITARY TAINT IN THE DEVELOPMENT OF INSANITY.

In the Address in Mental Disorders, found on another page of this journal, Dr. Detwiler relates the case of a brother and sister with hereditary tendency toward insanity, whose guardian impressed them so strongly with the danger of transmitting their hereditary insanity that they never married. The sister was such a lovely girl that in spite of the taint she was forced to reject fifty offers of marriage, under the "good old doctor's" (her guardian) constant remembrance of her misfortune. Is it surprising that both she and her brother died in an asylum, totally insane? This thought came to us with greater force when we read in the same address that "there is no brain that will not give way under sufficient strain if applied long enough." Is it right to attribute to heredity the collapse of these two minds under the fearful and continuous strain to which they were subjected? Might not a strain of equal intensity brought to bear on individuals with the purest family history, bring about the same result? These two cases in turn go to make statistics, to be laid in turn on the shoulders of those who may have the misfortune to number among their relatives cases of insanity. Simply the figures, however, will do duty in statistics, and the subsidiary influences lost sight of. The knowledge of hereditary taint, especially when continually brought to mind by one in authority, must exert a powerful influence in developing the condition, which under ordinary circumstances would never have shown itself.

K.

AN UNUSUAL SOURCE OF TYPHOID FEVER INFECTION.

While drinking water is the generally recognized medium through which typhoid

fever is acquired, other methods of infection are probably more frequent than is apparent on the surface. Within the year the writer had under his care, with another physician, a case of typhoid fever that could be traced distinctly to an infected well, a well, at least, belonging to a family in which two cases of fever had occurred. The case under consideration occurred in the country and ended in death. Shortly after, his sister, who nursed him, and two of his children, were stricken with the same disease. The most rational explanation of the origin of the three new cases was found in the statement of the sister, who said that on one occasion, after taking soiled bed clothing to the washhouse in the cellar, she returned with an apple, which she proceeded to peel, and giving part to the children, ate the remainder herself. In about two weeks all three were taken down simultaneously, but all were mild cases and ended in recovery. It seems reasonable to conclude that soiled hands transferred the typhoid germs to the apples and these in turn carried them to the intestinal tract. The drinking water on this farm appeared uninfected, for none of the remaining members of the family were affected. K.

JOINT MEETING OF LAWRENCE AND BEAVER COUNTY MEDICAL SOCIETIES.

A joint meeting of the Lawrence and Beaver County Medical Societies was held at the Hotel Oliver, Ellwood City, on Thursday, July 14, at which about 40 members were present. Dr. R. D. Wallace, of New Castle, was elected to preside over the meeting, and Dr. H. M. Shallenberger, of Rochester, to serve as secretary. The first paper on the program was read by Dr. Wm. M. Beach, of Allegheny City, on "Some Sequelae, of Infantile Constipation." The paper was one of more than ordinary importance and interest, and elicited a free discussion by the members of both societies. The next subject under discussion was "Appendicitis"; discussion thereon was opened by Dr. W. C. Simpson, whose stand in fa-

vor of early operation, as soon as a clear, positive diagnosis could be made, was supported by all who followed him.

A good dinner, served at the Hotel Oliver, gave opportunity for a general interchange of ideas and social enjoyment, and added much to the pleasure of the meeting. All present were impressed with the advantages of a joint meeting of this kind. Five applications for membership in the Beaver County Society could be traced directly to this meeting. J. H. W.

RANDOM WAR THOUGHTS.

Not a few persons have hesitated to believe that the Maine was destroyed by the Spaniards, in spite of the verdict of the Investigating Commission that the explosion was primarily external. The motives that would prompt such an attack are so foreign to the ordinary feelings that dominate human beings, that the doubters, in spite of the official verdict, were not without some justification. In the light of later developments, however, even this slight basis of argument in favor of Spain must give way, for the action of the sharpshooters at Siboney, and at other points near Santiago, in deliberately shooting at and killing the wounded on litters and the surgeons in charge, is even more heinous, though on a smaller scale, than the sinking of the Maine. There are no extenuating circumstances. The outrage was committed by picked men, who could not have been ignorant of the humanitarian significance of the red cross. It was not done under excitement, but with villainous premeditation.

The presence of Dr. Nicholas Senn at the front with General Shafter gives a feeling of security and confidence that the wounded will receive unexcelled attention, and be hedged with all hygienic precautions possible under the circumstances. With Surgeon-General Sternberg directing affairs at Washington and Dr. Senn in the field, the auspices for the medical and surgical aspects

of the war are indeed propitious. (This was written before the unfavorable criticisms against Dr. Sternberg appeared in the lay papers. After carefully weighing this evidence and the statements of Drs. Sternberg and Senn, we feel justified in holding to our original assertion.)

The surgeons of the War of the Rebellion doubtless represented the best element in the profession of their day, and their skill and general methods of procedure were of a high order. The same methods, however, carried out in the present war, accompanied, as they would be, by the "laudable pus" of olden times, would soon result in disgrace and dismissal. No stronger evidence of the progress in surgery can be offered than that of the results of gunshot wounds under modern treatment.

Without being conversant with the underlying facts, it does seem that the occurrence of typhoid fever in the various camps should have been prevented. Such outbreaks must necessarily be referred to an infected water supply, and the source of danger being thus known, the remedy should have been easily applied. We recognize, however, that it is easy to criticize and that from the general lack of facilities for the proper mobilization of troops, in large numbers, little more could have been expected. The long period of incubation of typhoid fever would permit the infection of a large number before the need for stringent measures of prevention would become apparent.

K.

RECENT APPOINTMENTS.

Recent appointments in the government service were:

Dr. George E. Fox, as assistant surgeon in the United States Navy. Dr. Fox was, at the time of his appointment, one of the resident physicians in the Medico-Chirurgical Hospital, Philadelphia.

Dr. Joseph Sailer, acting assistant sur-

geon in the United States Navy. Dr. Sailer was assigned to duty on the "Arctic."

Drs. James S. Kennedy and John C. Orr, of Chambersburg, acting assistant surgeons in the United States Army. Dr. Kennedy is on duty at Santiago, Cuba, and Dr. Orr has been assigned to duty at Camp Alger, Va.

Dr. Archibald G. Thomson, of Philadelphia, has been commissioned major and surgeon of the Third Regiment, Pennsylvania Volunteer Infantry, vice Major Edward Martin promoted to Brigadier-Surgeon.

D. W. N.

RECENTLY ELECTED OFFICERS OF COUNTY SOCIETIES.

ELK COUNTY.

President.....Geo. B. Hall, Cartwright.
Vice-President..W. B. Hartman, St. Mary's.
Secretary.....J. C. McCallister, Ridgway.
Treasurer.....E. J. Russ, St. Mary's.

MIFFLIN COUNTY.

President.....W. S. Wilson, McVeytown.
Vice-Presidents B. R. Kohler, Reedsville.
J. P. Getter, Belleville.
Secretary.....J. A. C. Clarkson, Lewistown.
Treasurer.....A. S. Harshberger, Lewistown.

SUSQUEHANNA COUNTY.

President.....J. J. Boyle, Susquehanna.
Vice-President..C. W. Caterson, Franklin Forks.
Secretary.....C. C. Halsey, Montrose.
Treasurer.....E. R. Gardner, Montrose.
Censors.....A. E. Snyder, New Milford.
J. G. Wilson, Montrose.
C. A. Johnston, Hop Bottom.
C. L. S.

RESULT OF THE JUNE EXAMINATIONS OF THE BOARD OF MEDICAL EXAMINERS REPRESENTING THE STATE MEDICAL SOCIETY.

At the session of the Board of Medical Examiners, representing the State Medical Society of the State of Pennsylvania, held at Philadelphia and Pittsburg, in June, 254 candidates presented themselves for examination. Of this number 47 failed to give evidence of fitness to practice in Pennsylvania. Two were expelled for copying. The next session of the Board will take place in Philadelphia, December 12, 13, 14 and 15.

K.

PRELIMINARY EXAMINATION FOR MEDICAL STUDENTS.

The preliminary examinations for medical students will be held by Superintendent

of Public Instruction Shaeffer within a few days after the opening sessions of the respective medical colleges. The examinations will be held at Pittsburg, Harrisburg and Philadelphia. Notice of exact date and hour will be given to all colleges and furnished to the medical journals with request for publication. College, academic and high school diplomas may be submitted at time and place of examination.

W. S. F.

COUNTY SOCIETY NOTES

At the regular monthly meeting of the Franklin County Medical Society, held at Chambersburg, July 19, the topic for general discussion was "Fractures of the forearm." Dr. I. N. Snively, of Waynesboro, read a paper on "Practical experience with diphtheria antitoxin," and Dr. S. F. Unger, of Mercersburg, one on "The Sympathetic System."

The Lehigh Valley Medical Association at its 18th annual meeting, held at Pottsville on July 23, elected the following officers: President, Dr. J. E. Baumer, of Telford; vice-presidents, Drs. C. D. Schaeffer, of Allentown; George H. Halberstadt, of Pottsville; A. A. Seem, of Bangor, and Jos. A. Horn, of Mauch Chunk; secretary, Dr. Charles McIntire, of Easton; treasurer, Dr. Abraham Stout, of Easton.

At the July meeting of the Lancaster County and City Medical Society, held the 6th, Dr. M. M. Denlinger, of Rohrerstown, read a paper on "Measles and their complications."

The Huntingdon County Medical Society holds annually what it calls an "outing meeting," when the society visits one of the towns in the county. This year the "outing meeting" was held at Alexandria on July 12. Interesting talks on microscopy, illustrated with specimens, were given by Drs. Harnish and Campbell. Dr. C. W. Banks, of Huntingdon, told of some of the queer drugs used in medicine a couple of hundred

years ago. In the evening the society was entertained at the home of Dr. Harnish.

The Berks County Medical Society held its regular monthly meeting on August 9, at the Neversink Mountain Hotel, on top of the mountain near Reading. A paper was read by Dr. M. Howard Fussell, of Philadelphia. An elaborate dinner was served after the meeting. Many of the members were accompanied by their wives. D. W. N.

CONGLOMERATE.

The Editor of the Journal of the Mississippi State Medical Association, states that in his experience all preventives against yellow fever have proven to be failures and that fully ninety-five per cent of those exposed acquire the disease.

Casselberry's Method of feeding during the period of intubation consists in laying the child on its back in an inclined plane, head downward. In this position none of the food, it is said, will enter the tube and cause coughing.

In a lecture on general evolution and natural selection as exemplified by man, (*Medical Record*) by Lawrence Irwell, of Buffalo, he said: "The vermiform appendix, which all surgeons, except those present this evening, so dearly love to remove, is a remnant of an herbivorous ancestor which required a large sized cæcum for the necessary retardation of a too rapid process of digestion." K.

President McKinley has decided that homeopathic graduates are eligible to appointment in the army and navy, provided they can pass the official examination, which is very rigid, but which, by the way, has little to do with therapeutics. As a result, statements from the surgeon-generals of the army, navy and marine hospital service have been issued, saying that there will henceforth be no discrimination in many of these offices against the graduates of any college. —(*American Journal of Surg. and Gynec.*)

Reviews.

DISEASES OF THE NERVOUS SYSTEM.

A Handbook for Students and Practitioners. By Charles E. Beevor, M. D., London, F. R. C. P., Physician to the National Hospital for the Paralyzed and Epileptic, etc. With Illustrations. Price, \$2.50. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1898.

The preface declares the object of this issue of the "Practical Series" to be the teaching of students and practitioners the methods of examination of patients suffering from diseases of the nervous system; and to also serve as an introduction to the study of the larger standard works on neurology.

The work is essentially a handbook, and is by no means a work of reference, and had the author written more fully upon methods of examination, and made no attempt to cover the entire field of nervous diseases, the work would have been more valuable to the student.

The book contains 432 pages. The typography is good; but some of the illustrations are blurred and indistinct. The work is divided into twenty-nine chapters. The first is introductory; the second is taken up by generalizations on anatomy and physiology, referring the reader for details to the large works on these subjects. In the third and fourth chapters will be found the most valuable part of the work, the third being devoted to the "Method of Taking a Case," and the fourth to "Modes of Examination." The remaining twenty-five chapters take up the various nervous diseases as regards symptoms, diagnosis, prognosis and treatment.

Diagrams are freely used to elucidate the text, and to recall anatomy. The majority of the illustrations are original, but several are taken from the works and papers of Swanzy, Jones and Head.

Among the authors quoted in the text the names of Gowers, Westphal, Brown-Sequard, Sinkler, Graves and Wier-Mitchell are prominent.

A. L. R.

A COMPEND OF DISEASES OF THE

SKIN. By Jay F. Schamberg, A. B., M. D., Associate in Skin Diseases, Philadelphia Polyclinic, etc. With 99 Illustrations. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898.

This volume is uniform with the well-known line of "Quiz-Compend," issued by P. Blakiston's Son & Co. It contains 307 pages, including a complete index. With slight modification the Duhring classification has been followed, and the author credits the works of Duhring, Crocker, Hyde, Van Harlingen, Robinson and Brocq. In compends the matter is neces-

sarily greatly condensed, and this issue reveals painstaking effort to omit no important detail. Diagnosis and treatment occupy a considerable space under each disease, and the illustrations are plain and helpful, many of them being taken from the authors credited above.

Primarily intended for the medical undergraduate, this little volume will be used by many in lieu of the more expensive works and atlases, on account of its completeness and convenience.

A. L. R.

YELLOW FEVER. Clinical Notes. By Just. Touatre, M. D. (Paris). Former Physician-in-Chief to the French Society Hospital, New Orleans, etc. Translated from the French by Charles Chassaignac, M. D., President New Orleans Polyclinic, Editor New Orleans Medical and Surgical Journal, New Orleans 1898

This work is not a translation in the ordinary sense of the word, for while written in French by the author, it was translated from the manuscript and thus appears first in the English language. It comes at an exceptionally favorable time and should meet with a hearty reception. While there are many things about yellow fever yet to be learned, the present knowledge of the disease is here portrayed excellently well and to persons liable to come into contact with the affection it will prove almost indispensable. In arriving at a diagnosis of yellow fever the symptom upon which most reliance is placed by the author, is the steady fall in the pulse-rate during the first two or three days, and this irrespective to the state of the temperature, being in direct opposition to other febrile conditions.

NEW BOOKS.

Lectures on Tumors. By John B. Hamilton, M. D., LL. D., Professor of Surgery, Rush Medical College and Chicago Polyclinic, etc. Third Edition, 21 Illustrations. Price, \$1.25, Net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1898.

A Manual of Modern Surgery. General and Operative. By John Chalmers Da Costa, M. D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia; etc. With 386 Illustrations. Price, Cloth, \$4.00; Half Morocco, \$5.00, Net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

Manual of Physical Diagnosis. For the Use of Students and Physicians. By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania; etc. Third Edition, Revised and Enlarged, with Colored and Other Illustrations. Price, \$1.50, Net. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1898.

Atlas and Epitome of Operative Surgery. By D. Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized Translation from the German. Edited by J. Chalmers Da Costa, M. D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; etc. With 24 Colored Plates and 217 Illustrations in the Text. Price, \$3.00, Net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

Atlas of Syphilis and the Venereal Diseases. Including a Brief Treatise on the Pathology and Treatment. By Professor D. Franz Mracek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York; etc. With 71 Colored Plates. Price, \$3.50, Net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

The Office Treatment of Hemorrhoids, Fistula, etc. Without Operation. Together with Remarks on the Relation of Diseases of the Rectum to Other Diseases in Both Sexes, but Especially in Women, and the Abuse of the Operation of Colostomy. By Charles B. Kelsey, A. M., M. D., Late Professor of Surgery at the New York Post-Graduate Medical School and Hospital; etc. E. R. Pelton, No. 19 East Sixteenth Street, New York. 1898.

Manual of the Diseases of Children. By John Madison Taylor, A. M., M. D., Professor of Diseases of Children, Philadelphia Polyclinic, etc., and William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic; etc. Illustrated. Price, \$4.00, Net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1898.

Hand-Book of Materia Medica for Trained Nurses. Including Sections on Therapeutics and Toxicology and a Glossary of Terms with Dose and Use of Each Drug. By John E. Groff, Ph. G., Apothecary in the Rhode Island Hospital, Providence. Price, \$1.25, Net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1898.

REPRINTS AND PAMPHLETS.

The X-Ray from a Medico-Legal Standpoint. Read before the Fourth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, October 6-8, 1897. By R. Harvey Reed, M. D., Columbus. Reprinted from the Journal of the American Medical Association, April 30, 1898.

Renal Suppuration, Catarrhal, Specific and Traumatic, and the Value of Micro-Uranalysis of the Urinary Sediment as an Aid to Definite Diagnosis of it. Presented to the Section on Obstetrics and Diseases of Women, at the Forty-Eighth Annual Meeting of the American Medical

Association, held at Philadelphia, June 1 to 4, 1897. By Thomas H. Manley, M. D., New York. Reprinted from the Journal of the American Medical Association, November 13 and 20, 1897.

The Surgery of Tuberculosis of the Peritoneum. By Parker Syme, M. D., New York. Reprinted from the Medical Record, April 2, 1898.

Pneumonia Treated by Heat Over the Spine and by the Inhalation of Pure Oxygen. By Beverley O. Kinnear, M. D., New York. Reprinted from the Boston Medical and Surgical Journal, December 2, 1897.

Neurasthenia or Neuro-sthenia: Which? and an Efficient Treatment. By Beverley, O. Kinnear, M. D., New York. Reprinted from the Therapeutic Gazette, September 15, 1897.

Some Remarks and Reports Upon Specimens in Abdominal Surgery. By H. O. Walker, M. D., Detroit. Reprinted from the Physician and Surgeon, Detroit and Ann Arbor.

The Surgery of the Gall-Bladder and Its Ducts. By H. O. Walker, M. D., Detroit. Reprinted from the Medical Age, April 25, 1898.

Abdominal and Pelvic Surgery, Extracts from Clinical Lectures and Society Transactions. By William H. Wathen, M. D., Louisville.

The Electro-Therapeutics of Rheumatism. By A. R. Rainear, M. D., Philadelphia. Reprinted from the Codex Medicus, November, 1897.

Food and Stimulus. By Samuel Wolfe, M. D., Philadelphia.

Some Physiologic and Pathologic Observations Connected with Disease and Injury of the Cervical Cord. By Samuel Wolfe, M. D., Philadelphia. Reprinted from the Medical and Surgical Reporter, March 31, 1898.

The Influence of the X-Ray Method of Diagnosis Upon the Treatment of Fractures. By Charles Lester Leonard, M. D., Philadelphia. Reprinted from the Therapeutic Gazette, March, 1898.

Localization of a Fragment of Babbit-Metal in the Eyeball, by Means of Repeated and Differently Placed Exposures to the Roentgen-Ray. By Charles Lester Leonard, M. D., Philadelphia. Reprinted from the Philadelphia Medical Journal, April 23, 1898.

The Value of the Roentgen-Ray as a Means of Surgical Diagnosis. By Charles Lester Leonard, M. D., Philadelphia. Reprinted from the University Medical Magazine, April, 1898.

Hysterectomy for Fibro-Myomata. Some Early Records—Remarks. By Mary A. Dixon Jones, M. D., New York. Reprinted from the British Gynaecological Journal, February, 1898.

A Preliminary Report on a Method of Overcoming High Resistance in Crookes' Tubes; A Possible Step Toward Maximum Radiance. By W. W. Graves, M. D., St. Louis. Reprinted from the American X-Ray Journal, April, 1898.

Sudden Death and the Coroner. By John B. Huber, M. D., New York. Reprinted from the New York Medical Journal, July 4, 1896.

A New Operation for the Radical Treatment of Cancer of the Cervix, Consisting of the Removal of the Uterus and Vagina En Masse by the Suprapubic Method. With Report of a Case. By X. O. Werder, M. D., Pittsburg. Reprinted

from the American Journal of Obstetrics and Diseases of Women and Children, Vol. XXXVII., No. 3, 1898.

Appendicitis Complicating Ovarian Cyst and Simulating Torsion of the Pedicle, with Three Cases. Presented in the Section on Obstetrics and Diseases of Women at the Forty-Eighth Annual Meeting of the American Medical Association at Philadelphia, June 1 to 4, 1897. By X. O. Werder, M. D., Pittsburg. Reprinted from the Journal of the American Medical Association, January 1, 1898.

A Case of Hypopyon Kerato-Iritis Occurring in a Patient During an Attack of Typhoid Fever. By Clarence A. Veasey, M. D., Philadelphia. Reprinted from the Ophthalmic Record, April, 1898.

A Case of Bilateral Syphilitic Ulceration of the Palpebral Conjunctiva. By Clarence A. Veasey, M. D., Philadelphia. Reprinted from the International Medical Magazine, April 15, 1898.

Injuries from "Live" Electric Light and Trolley Wires. By J. J. Brownson, M. D., Dubuque, Iowa. Reprinted from the Tri-State Medical Journal and Practitioner, St. Louis, April, 1898.

Cataract Operations; Mules' Operation Illustrated by Skiagraphs; Capsulotomy; Operation for Pterygium. Clinical Lecture delivered at the Medico-Chirurgical College. By L. Webster Fox, M. D., Philadelphia. Reprinted from International Clinics, Vol. II., Eighth Series.

EFFECT OF COFFEE-DRINKING ON THE EYES.

Snaitken, according to the *Medical Review*, says that the Moors are inveterate coffee-drinkers, especially the merchants, who sit in their bazaars and drink continually during the day. It has been noticed that almost invariably when these coffee-drinkers reach the age of forty or forty-five their eyesight begins to fail, and by the time they get to be fifty years old they become blind. One is forcibly impressed by the number of blind men seen about the streets of the city of Fez, the capital of Morocco. It is invariably attributed to the excessive use of coffee. —(N. Y. Medical Times.—Cincinnati Lancet-Clinic.)

THE USE OF THE HAND IN OBSTETRICS.

It will be objected that the danger of introducing septic germs with the hand is such as to offset any probable good to come of such uterine manipulations. To this we simply say that the operator who is unwilling or unable to sufficiently sterilize his hand for obstetric operations is unfit to be trusted at the other end of an instrument of steel boil he it never so wisely! —(Malcom McLean.—Western Med. Review.)

MEDICAL EXAMINING BOARDS OF PENNSYLVANIA.

Members of the Board Representing the Medical Society of the State of Pennsylvania.

DR. HORACE G. MCCORMICK, *President*,
Williamsport.

DR. WILLIAM S. FOSTER, *Secretary*,
252 Shady Ave., Pittsburg.

DR. HENRY BEATES, JR., Philadelphia.

DR. ALLEN H. HULSHIZER, Philadelphia.

DR. SAMUEL W. LATTI, Philadelphia.

DR. JOSEPH K. WEAVER, Norristown.

DR. WINTERS D. HAMAKER, Meadville.

List of Questions Submitted by the Examining Board Representing the State Medical Society in June, 1898.

Anatomy.

1. Give the structure, location and blood supply of the pancreas.
2. With what bones does the occipital articulate?
3. What is contained in the left hypochondriac region?
4. Give four principal points of distribution of the pneumogastric or par vagum nerve.
5. What is contained in the middle mediastinum?
6. What anatomical parts are involved in the descent of the testes?
Describe the lymphatic region.
8. In the operation for tongue-tie, what artery is there danger of wounding, and how may it be avoided?
9. What nerves supply the tongue?
10. In an amputation of the leg five inches below the knee, what arteries will be necessary to tie, and of what are they branches?

Physiology.

1. Describe in detail the process of dentition.
2. Describe the bile, its mode of production, and its supposed uses in the body.
3. Briefly but completely describe intestinal digestion, naming the changes occurring in the types of food and the factors concerned in its propulsion.
4. State the functions of the cells of gray nerve matter.
5. Name the functions of the chorda tympani nerve, sufficiently detailing each to clearly define its character.

Pathology.

1. Give the pathology of progressive muscular atrophy.
2. Describe the pathological changes present in the lung during the consolidation stage of

acute croupous or lobar pneumonia, and include the characteristics of the exudate.

3. How should a post mortem examination be made to verify a death from apoplexy, and what pathological conditions would be found?

4. State the pathological characteristics of epithelioma and carcinoma, and describe wherein they differ.

5. What structural or tissue changes are found in scurvy?

THERAPEUTICS AND PRACTICE.

Therapeutics.

1. What are the advantages and disadvantages in the use of chloroform as an anæsthetic, and what are the signs indicative of danger to the patient?

2. Give the physiological action and therapy of saline purgatives.

3. Name three drugs used in the treatment of intermittent fever, and state how each controls this disease.

4. Define briefly but clearly "serum-therapy."

5. Enumerate the principal therapeutic uses of pilocarpus.

Practice.

1. What are the symptoms and the most common cause of acute suppurative hepatitis, and how does that cause operate to produce it?

2. Give the symptoms, the pathognomonic signs and the treatment of the first and second stages of croupous pneumonia.

3. What are the general symptoms in encephalic tumors and the focal phenomena when located in the cuneus?

4. What are the ordinary forms of aneurysm, its causes, common site, and how would you recognize it?

5. Describe the treatment of intestinal indigestion.

Surgery.

1. Name the point of selection for paracentesis pericardii, and the difficulties surrounding the operation.

2. Describe the technique of an aseptic coeliotomy.

3. Give the common cause and the treatment of acute cystitis.

4. Describe intercellular transfusion (hypodermoclysis).

5. Name three of the etiological factors of lateral curvature of the spine, and give surgical treatment.

6. Give the treatment by which danger can be almost entirely eliminated in compound fractures.

7. Give the symptoms of fracture of the neck

of the scapula, also give the treatment.

8. How is a fracture of the internal condyle of the elbow joint recognized, and how treated to prevent the well-known gun-stock deformity?

9. Describe the treatment for aggravated prostatic hypertrophy.

10. Give the symptoms, the palliative and operative treatment for internal hemorrhoids.

Obstetrics.

1. Classify the signs of pregnancy, and state how the objective signs are determined.

2. How would you diagnose the death of the foetus in utero?

3. What is hyperemesis, and what is its treatment?

4. Give the causes, diagnosis and management of rupture of the uterus during labor.

5. What are the sources of infection during labor and the puerperal period? What is the prophylaxis and treatment?

6. What is meant by the term "rigid os," and how should it be treated?

7. What are the causes of precipitate labor, what are its dangers, and what is the treatment?

8. Describe the normal non-gravid uterus, giving its functions and relation to the other organs of generation.

9. State the causes of post partum hemorrhage, primary and secondary, and give prophylaxis and treatment.

10. What are the different forms of version, give the indications for, and the method of podalic version?

CHEMISTRY AND MATERIA MEDICA.

Chemistry.

1. How do you test for blood, chemically?

2. Give common names of mercuric chloride; describe its toxic action, contrasting it with that of arsenic, and give treatment for a case of poisoning by the former.

3. How would you determine the presence of free hydrochloric acid in gastric juice?

4. What chemical solvent would you use to abstract all the fat from milk or from any emulsion? Describe the process.

5. What is salicylic acid; how is it made; what are its properties?

Materia Medica.

1. Name four drugs incompatible with tannic acid. Name two incompatible with hyosecyamus.

2. What doses of antitoxin are used for a child five years old, ill with diphtheria? What would be the prophylactic dose for the same child?

3. What active principles are found in digitalis?

What are the official preparations of petroleum?

4. What official preparations are derived from the willow?

5. Correct the following prescription:

R. Atropiae Sulphati, grs. iss.

Potas. Iodidi, $\frac{1}{2}$ oz.

Infusae Digitalis, $\frac{1}{2}$ fl. oz.

Elix. Simpl. q. s. ad. 2 fl. oz.

M. S. Teaspoonful in water 4 times a day.

Diagnosis.

1. What are clinical manifestations of biliary calculi?

2. Differentiate empyema from pulmonary abscess.

3. Describe the diagnostic characteristics of the eruption of typhoid fever, small-pox and chicken-pox.

4. Differentiate diphtheria from follicular tonsillitis.

5. Differentiate acute enteritis from acute dysentery.

Hygiene.

1. What is the object of the wet pack; what dangers must be guarded against, and what unfavorable results may occur?

2. What hygienic means should be employed by persons prone to "catch cold?" Why?

3. Describe, in detail, the process of disinfection by formaldehyde (formalin).

4. What hygienic measures should be observed by the nursing woman?

5. What factors should be considered in the selection of a climate suitable for tubercular subjects?

LIST OF APPLICANTS WHO PASSED SUCCESSFUL EXAMINATIONS IN JUNE, 1898.

Acker, George B., Jr. .
Ahlborn, Maurice B.
Alexander, Guy L.
Allen, Alfred R.
Ambrose, Samuel E.
Anders, Warren Z.
Apple, W. E.
Arbely, Ellsworth F.
Arbuthnot, Thomas S.
Armstrong, William N.
Arner, Quinton D.
Atwell, Jacob C.
Babcock, William W.
Bacon, Morgan L., Jr.
Ball, Joseph P.
Barker, Olin G. A.
Barthett, Frank H.
Beaver, Albert J.
Becker, Henry M.
Bennett, John, Jr.
Bernd, Leo H.
Bitzer, Newton E.
Black, William L.
Blackburn, Ella
Bloomhardt, Fred H.

Boak, Robert G.
Bonebrake, John S.
Boston, Samuel C.
Bower, Albert E.
Bowyer, Maude A.
Boyer, Robert, Jr.
Boyle, Morris P.
Brennan, John J.
Bringham, Joseph
Brister, John M.
Brubaker, Granville M.
Bryson, Howard R.
Burns, Stillwell C.
Butz, Raymond E.
Campbell, Oscar C.
Carey, Harry K.
Carncross, Horace L.
Castagna, Biagio
Clarke, Charles W.
Clever, Henry S.
Cohen, John
Conti, Gastano
Corser, John B.
Councill, Malcolm S.
Craig, Frank A.

Crist, Louis A.
Crowe, William W.
Cruice, John M.
Davison, Harry M.
Delaney, Daniel D.
Devereux, John P.
Diller, Ira D. A.
Dixon, John W.
Donaghue, Louis F.
Donaldson, Walter F.
Donnelly, Edward J.
Dunkle, Cyrus G.
Dyson, John R.
Eccles, John
Edwards, James F.
Evans, Alice R.
Ewing, John H.
Faucett, William E.
Ferry, Ralph W.
Field, William H.
Fish, Henry C.
Fishburn, Benjamin B.
Flower, Edith I.
Foster, Curtis S.
Foster, David G.
Francine, Albert P.
Freundenberger, K.
Fritts, Andrew S.
Gamson, Emil
Gaso, Horatio W.
Gerlach, Ella M.
Gordon, Samuel H.
Graham, Arch. H.
Grant, Joseph F.
Gray, Harry E.
Greer, Robert J.
Griffith, William S.
Grissinger, Jay W.
Gruer, Arthur B.
Haig, Charles R., Jr.
Hanley, Walter S.
Harris, Richard H.
Hawes, John W.
Heffley, Robert J.
Henritzy, Oscar E.
Herriott, Frank E.
Hershey, Jacob D.
Hertz, William J.
Hess, William G.
Herison, Englen T.
Hoskins, John
Howe, Llewellyn O.
Howe, William
Howell, Joseph L.
Inslee, Fayette L.
Ives, Sarah E.
Jamison, Peter H.
Jarvis, George O.
Jeffers, Benjamin B.
Jefferys, William H.
Jenkins, David J.
Johnson, Charles
Johnston, John
Jones, Evan L.
Kainis, Arthur W.
Kalteyer, Frederick J.
Kellner, Henry C. F.
Kennedy, Lercius C.
Kilgore, Frank D.
Kirsh, George B.
Kistler, Arthur S.
Knipe, R.
Kress, Frederick C.
Lammer, Francis J.
Large, Octavus
Laughlin, Mary A.
Leof, Morris V.
Libby, Mildred A.
Lindauer, Eugene
Lingenfelter, S. McC.
Linn, Charles F.
Lloyd, Reba
Lyon, Charles H.
Lyon, Leslie C.
McClain, Charles A.
McComb, Edwin C.
McConnell, Walker W.
MacCord, Thomas C.
McDonald, John M.
Macfarlane, Catherine
McGhee, Saylor J.
McGuire, George T.
Mackenzie, Simon S.
McMullen, Uriah H.
McPhaid, Donald T.
Male, Jonathan T.
Markley, John M.
Marsden, Harry I.
Martin, William O.
Mason, W. S.
Medley, John E.
Meschler, Eugene F.
Miller, Homer C.
Miller, William G.
Mislett, Joseph V.
Mitchell, Charles F.
Mitchell, James W.
Momie, David McD.
Montgomery, James H.
Moore, Edward K.
Moran, Patrick J.
Morrow, Thomas M.
Mueller, Henry C.
Murphy, Joseph A.
Myers, John H.
Newlove, George
Nichols, Henry D.
Nickel, Harry G.
Norris, Charles C.
Oberholzer, Morris B.
Osmond, Martha E.
Ostheimer, Alfred J., Jr.
Overmiller, Noal A.
Palmer, Ella
Pancoast, Henry K.
Parrish, Robert C.
Parsons, Henry T.
Patterson, Ellen J.
Pennell, Howard L.
Peters, R. C.
Peters, Urban J. W.
Pfahler, George E.
Phillips, James McI.
Phillips, William W.
Poole, Richard E.
Porter, Joseph A.
Price, George E.
Pridgeon, Lily G. H.
Quicksall, William E.
Quigley, John M.
Reader, Addison B. G.
Richardson, Emma M.
Richman, Edward M.
Rinard, Charles C.

Rivas, Domaso
 Robbins, Rachel
 Roberts, Frederick C.
 Robinson, Geo., Jr.
 Roland, Charles
 Rostow, Clarence
 Sageron, John L.
 Salmon, Leon T.
 Saunders, Orris W.
 Saylor, Edwin S.
 Sehamberg, Morris I.
 Seafuse, Merton E.
 Sears, William H.
 Semple, William H.
 Sherrer, Fred. A.
 Shoemaker, Walter R.
 Shortledge, Charles B.
 Shrom, Laura G.
 Simeox, Laurence
 Simpson, Daniel G.
 Simpson, Jesse P.
 Sloane, Edgar H.
 Smethurst, Albert E.
 Smith, Alfred C.
 Smith, Charles P.
 Smith, Frank H.
 Smith, Herbert J.
 Smith, John G.
 Snodgrass, Boyd E.
 Sollenberger, Aaron B.
 Spare, Aristople
 Spiers, George C.
 Spiegle, Grace E.
 Sprowls, Emmett A.
 Spaekhouse, Charles P.
 Stanton, William B.
 Steele Bruce P.
 Steele, John G.

Steer, Samuel L.
 Steiron, Joseph M.
 Stewart, John McM.
 Stofflet, Clinton F.
 Stryker, Minnie
 Sheart, George E.
 Sutton, Howard A.
 Target, John D.
 Taylor, Frank H.
 Thomas, John Q.
 Thompson, Albert E.
 Thompson, Mary I.
 Tobias, John B.
 Tracy, Stephen E.
 Trainer, Robert F.
 Truitt, George W.
 Uhle, Alexander A.
 Urnison, Allan W.
 Vail, James L.
 VanCamp, David W.
 VanKorb, William
 Vernon, Samuel M.
 Walter, Mayd M.
 Wanner, Abram K.
 Ward, Lettie A.
 Wasson, Elgie L.
 Watson, Adeline M.
 Weber, Hall J.
 Weidler, Walter B.
 Weissner, Edward A.
 Wells, Nathan E.
 Westervelt, Harry C.
 Wheeler, Luicia A.
 Williams, Edward N.
 Witherspoon, Walter
 Yawger, Nathan S.
 Yoder, William S.
 Young Annie.

continued to be received, money to be collected. Among other things the equipment of a field ambulance and hospital service has been undertaken, and already has so far proceeded as to be properly regarded as an accomplished fact, and the Society will be able to put into the field six ambulances, with their proper appurtenances and a properly equipped field hospital.

The fall of Santiago reopens the opportunity of meriful work in Cuba. The Society has already made arrangements to forward several tons of stores, which have been only waiting a chance to be sent, and has appropriated in addition for this shipment, \$1,200. But this is but a drop in the ocean of suffering. More must be done. The Society proposes, therefore, to charter a steamer, to sail from Philadelphia about August 15, to convey the ambulance corps and equipment to the front and to load the vessel with stores, such as soldiers may need and which the government does not provide, and with clothing, food, and medicine and such other things as may be required by those wretched, suffering people, whom we encouraged to resist Spain and to make a struggle for liberty, and whose suffering has been fearfully and necessarily enhanced by the war upon which we have entered.

The Society, therefore, appeals to what has never been appealed to in vain, to the grand old heart of Pennsylvania, the grand old Commonwealth whose foundations were laid in love to man, irrespective of race, and asks for contributions of goods and money to enable it to carry out its project—to save lives—to relieve suffering—to feed the starving—to clothe the naked. The Society makes this appeal in all confidence. Pennsylvania has never yet failed when called upon in the name of patriotism and humanity. She will not fail now!

Contributions in money may be sent to William Hill, Treasurer, No. 308 Walnut street, Philadelphia; contributions of stores addressed to the Associate Society of the Red Cross, Philadelphia, 1501 Chestnut street.

Charles H. Howell, President; Henry Budd, Vice-President; Mrs. J. T. Rumney, Vice-President; Lawrence S. Smith, Corresponding Secretary; J. Wilks O'Neill, Recording Secretary; William Hill, Treasurer, pro tem.

EXECUTIVE COMMITTEE.

Miss Louise E. Claghorn, Mrs. John H. Dye, Mrs. Frank Coxe, Mrs. J. Wilks O'Neill, Mrs. John F. Unger, Mrs. W. Hinekle Smith, Mrs. Henry Budd, Mrs. James H. Rhodes, Mrs. J. Price Wetherill, Mrs. Mary L. Koons, T. Wallis Huidekoper, George W. Baeon, E. Frank Carson, William Clare Allison, William S. Hallowell, Charles Wadsworth, Jr., Frysinger Evans.

Communications.

AN APPEAL FROM THE ASSOCIATE SOCIETY OF THE RED CROSS OF PHILADELPHIA.

To the People of Pennsylvania:

The Associate Society of the Red Cross of Philadelphia has, during the present war and the distress, in Cuba, which preceded the breaking out of hostilities between our country and Spain, been actively engaged in its humanitarian work of ministering to the necessities of the men in the field and of the suffering Cubans. It has sent many articles of comfort, even of life-saving importance to our troops in their various camps, sometimes in response to most touching appeals; the appeal came and the Society was ready. It has besides made a large number of shipments of goods, provisions, clothing, medicines to the Cubans. In all its work it has been nobly upheld, notably by the people of Philadelphia, but also by those of other parts of the State and of New Jersey.

During the blockade and the siege of Santiago, one branch of its ministrations was necessarily suspended, but the Society was not idle, stores

THE FIRST NATHAN LEWIS HATFIELD PRIZE FOR ORIGINAL RESEARCH IN MEDICINE.

The College of Physicians of Philadelphia announces through its committee that the sum of Five Hundred Dollars will be awarded to the author of the best essay in competition for the above prize.

Subject: "A Pathological and Clinical Study of the Thymus Gland and its Relations."

Essays must be submitted on or before January first, 1900.

Each essay must be type-written, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device, and containing the name and address of the author. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays, if reclaimed by their respective writers or their agents within one year.

The Committee reserve the right not to make an award if no essay submitted is considered worthy of the prize.

The treatment of the subject must, in accordance with the conditions of the Trust, embody original observations of researches or original deductions.

The competition shall be open to members of the medical profession and men of science in the United States.

The original of the successful essay shall become the property of the College of Physicians.

The Trustees shall have full control of the publication of the memorial essay. It shall be published in the Transactions of the College, and also when expedient as a separate issue.

Address,

J. C. Wilson, M. D., Chairman,
College of Physicians,

219 South Thirteenth st., Philadelphia, Pa.

ACTION OF THE AMERICAN MEDICAL ASSOCIATION ON THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF MEDICINE.

Philadelphia, June 30, 1898.

Dear Sir: At the recent meeting of this Association the following was unanimously adopted:

Whereas, The American Medical Association did, at Detroit in 1892, unanimously resolve to demand of all the medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standard of the Association of American Medical Colleges; and

Whereas, This demand was sent officially by the Permanent Secretary to the deans of every

medical college in the United States and to every medical journal in the United States, now therefore the American Medical Association gives notice that hereafter no professor or other teacher in, nor any graduate of any medical college in the United States, which shall, after January 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, be allowed to register as either delegate or permanent member of this Association.

Resolved, That the Permanent Secretary shall, within thirty days after this meeting, send a certified copy of these resolutions to the dean of each medical college in the United States, and to each medical journal in the United States.

Respectfully yours,

Wm. B. Atkinson,

Permanent Secretary.

ACKNOWLEDGMENT FROM DR. W. H. DALY.

Pittsburg, Pa., August 3, 1898.

Editor of Pennsylvania Medical Journal:—

I take this method of thanking the members of the American Laryngological, Rhinological, and Otological Society for the handsome presentation sword sent to me by the committee appointed at the recent meeting in Pittsburg, an attention I appreciate and value most highly. Were it possible, I would individually write and thank the respective members who united in sending me so beautiful a souvenir.

William H. Daly.

DR. GUITERAS PROSTRATED.

It is reported that owing to the excessive labors forced upon him on account of the campaign in Cuba, Dr. John Guiteras has been prostrated with fever and overwork. He reported 250 cases of yellow fever in the hospital at Siboney on July 16, and up to that time there had only been five deaths from that cause, thus proving the mildness of that disease. In the epidemic of yellow fever last year in the South, Dr. Guiteras also attributed the low death rate to the fact that, owing to a better understanding of that disease and of its symptoms than was formerly the case, many cases were recognized earlier and consequently received appropriate treatment before alarming complications arose, thus reducing the mortality. —(Journal American Medical Association.)

Monthly Reports of County Societies.

REPORT OF ARMSTRONG COUNTY MEDICAL SOCIETY.

IN MEMORIAM: THOMAS HENDERSON ALLISON, M.D.

Thomas Henderson Allison was born June, 1820, at West Middletown, Washington County, Pennsylvania. He was the son of Rev. Thomas Allison. He died, after a short illness, of paralysis of the heart, at his home in Kittanning, Pa., June 11, 1898, and was therefore in the 78th year of his age.

His early education was received in a private school, the Florence Academy, and at Franklin College, New Athens, Ohio. He studied medicine with Dr. A. C. Hamilton, of West Middletown, and was graduated from Jefferson Medical College, Philadelphia in 1854. He began practice at Murrysburg but later moved to Elderton, Armstrong Co., Pa. At the beginning of the Civil War, he was appointed acting assistant surgeon at Hammond General Hospital, Point Lookout, Maryland, from which, at the later part of the war, he was honorably discharged, as many testimonial documents in his possession show, to become surgeon of the twenty-ninth regiment, Pennsylvania Volunteers, at the time of the invasion of Pennsylvania by the rebels.

Since the close of the Rebellion he has been actively engaged in the practice of his profession at Kittanning, where, to the time of his death, he held a large and remunerative portion of the practice of the town and surrounding country.

He held the position of surgeon to the Allegheny Valley Railway for many years and up to the time of his demise, and was one of the organizers of the Armstrong County Medical Society, in which he always took a prominent part, and where his learning and ripe experience always gave him the respectful attention of his confreres. He was twice honored with the presidency

of the Society, and was its representative at the State Medical Society in 1880 at which time he became a permanent member; was a State delegate to the National Association in 1897.

He was recognized all over the county as an able and honorable consultant and was frequently called away from home in this capacity. He was a fearless, yet conservative surgeon, and the Nestor of the fraternity in this section. After the war, he was for a number of years the U. S. Examiner for pensions. Much could be said of credit and interest in his professional life, if this sketch were more than a brief review, however it must be said that he always and at all times upheld the dignity and honor of the profession.

He was affiliated with a large number of societies, aside from medicine. Among them being: Milnor Lodge, F. and A. M., Orient Chapter R. A. M., No. 247, and Tancered Commandary, K. T. He was a member of the Methodist Episcopal Church; president of the Board of Trustees and of the Board of Stewards, and for a number of years superintendent of the Sunday School; in all of which capacities he was noted for his devotion to the interests of the Church, and his liberality in sustaining them.

As a business man he was equally as successful as in the practice of medicine. For a number of years he was president of the Allegheny Valley Bank, of Kittanning. His business acuity acquired for him a considerable property both in town and out. He was the possessor of a number of fine farms. An acknowledged judge of thoroughbred stock, he was first to introduce into this county Jersey and Aberdeen Angus cattle, Spanish Merino, Shropshire and Dorset horned sheep, which he bred. He was called as judge to various County Fair Associations every year on account of his technical knowledge and as a breeder of fine stock. He was a member of the County Farmers Club, the American Jersey Cattle Club; the American Shropshire Sheep Re-

cord Association, American Aberdeen Angus Association, and the Dorset Horned Sheep Association.

He was married to Mary M. McFadden, in 1845, who survives him, with one son—Dr. T. M. Allison of Kittanning—and one daughter—Mrs. Laura I. Moore, wife of James S. Moore of Buffalo, N. Y.

The funeral was largely attended, the various ministers of the town taking part in services, the Medical Society adjourning to attend in a body—and the Masonic fraternity participating with their beautiful and impressive services at the grave.

The following resolutions were adopted by the Armstrong County Medical Society at their recent session:

Whereas, In the recent death of Doctor Thomas Henderson Allison, the committee appointed by the Armstrong County Medical Society feel called upon to make some expression of the loss, sympathy and regard for him;

Therefore, Resolved, That, as he was one of the most distinguished practitioners of medicine in this part of the State, we have lost one of our best members and a brother, who was at all times an ornament to the profession;

That, in a practice extending over a period of fifty years, he was signally successful and always with credit to himself and honor to the fraternity;

That, he was devotedly active in the County Society and thereby kept alive much of its interest, and

Resolved further, That we extend our sympathy and condolence to the family of the deceased, in our mutual loss.

*R. L. McCurdy, M.D.,
J. K. Maxwell, M.D.,
J. G. Cunningham, M.D.,
J. B. F. Wyant, M.D.,
J. T. Deemer, M.D.,
F. C. Monks, M.D.,*

Committee.

REPORT OF CLEARFIELD COUNTY MEDICAL SOCIETY.

IN MEMORIAM: JOHN HARTSWICK, M.D.

On Saturday afternoon, March 14, 1896, death invaded the ranks of the Clearfield County Medical Society, and called Dr. John Hartswick to enter a new life. His name and noble Christian character will long be remembered by those who were fortunate enough to know him.

He was born near Boalsburg, Centre County, Pa., on April 17, 1830. He was a descendant of one of the oldest families in this section of the State. After receiving a liberal education he studied medicine with the late Dr. Berry, and graduated from the University of Pennsylvania as a Doctor of Medicine on April 1, 1854.

For two years he practiced his profession at Hublersburg in his native county. In 1855 he married Catherine Huston of Centre County. Three children were born to them, two sons and a daughter. The eldest son studied medicine, and after practicing with his father for two years died. The second son is an attorney-at-law, and a member of the Clearfield bar, the daughter remaining at home with her mother.

In 1856 Dr. Hartswick came to Clearfield and practiced medicine with Dr. Loraine until the death of the latter some two or three years later. He started a drug store with Samuel Huston, his brother-in-law, under the name of Hartswick and Huston. In 1865 the firm changed to Hartswick and Irwin, and so remained until his death. He was one of the original members of the Clearfield County Medical Society, and was its president in 1895.

His character was noble in the highest sense of the word; from his boyhood days he was connected with the Presbyterian church; forty years he was a member, and for twenty years held the honorable office of elder. He was ever content to fill a private station in life and was a useful man to the community; his kindness to the poor

and unfortunate was proverbial, and many a silent tear was shed when his remains were laid to rest.

His honesty of purpose, his strict integrity in business transactions and his profound religious convictions made him a model for the rising generation. The deceased was one of my warmest friends, and with reverence and respect I perform this humble tribute to his noble memory.

R. V. Spackman, Committee.

Dubois, Clearfield County, Pa.

REPORT OF MERCER COUNTY MEDICAL SOCIETY.

At a meeting of the Mercer County Medical Society held in Mercer on July 8, 1898, the following memorial was read and adopted:

IN MEMORIAM: G. W. YEAGER, M.D.

Since our last meeting Dr. G. W. Yeager, one of our most respected members, has yielded to the great enemy, whom he had baffled so often in behalf of his patients. He died at his home in Mercer, surrounded by his family, on April 22, 1898, at the ripe age of 73. His health had been declining for several years, but not until the last winter was he unable to attend to his professional calls. Dr. Yeager was the only son of Michael and Cynthia (Fell) Yeager, one of the old families of Mercer. He was born in 1824 and was educated at the famous old Mercer Academy. He began the study of medicine under Dr. James Magoffin in 1847 and took a course of lectures at the Western Reserve Medical College at Cleveland, Ohio; but he gave up his studies for a time and became one of the vast caravan of gold seekers who crossed the continent to California in 1849. He remained in the land of gold about two years, and returned to Mercer in 1851 and graduated as a Doctor of Medicine from the University of Pennsylvania in 1852. After receiving his degree he opened an office in Mercer where he continued to practice during his

entire professional life except the period he served as a surgeon in the Union army in 1863-4. As a physician Dr. Yeager ranked high with those who knew him best. He was of a modest and retiring disposition, and was perhaps for that reason not appreciated as much by the general public as his merits warranted. He was an omnivorous reader of general literature, and was in this respect one of the best read men in the county. He was of a kind and genial disposition, and never allowed his patients to suffer for want of proper medicines and wholesome food if too poor to procure them themselves.

He leaves a widow, six daughters and one son to survive. The son, Dr. Geo. M. Yeager, has succeeded to his father's practice. We will miss the familiar form and ripe experience of Dr. Yeager in our meetings, but we can, if we will, emulate his example as a faithful physician and surgeon, and honest man.

*R. D. Morford,
Secretary.*

*M. M. Magoffin,
R. M. Hope,
J. B. McElrath,
Committee.*

REPORT OF CUMBERLAND COUNTY MEDICAL SOCIETY.

IN MEMORIAM: ROBERT N. SHORT, M.D.

Whereas, The Allwise Creator of the Universe in His inscrutable wisdom has removed Dr. Robert N. Short from our midst, therefore,

Resolved, That the medical profession has lost in him a most valued member, and this Society, one whose associations have ever been most pleasant, and whose memory will be long cherished with the fondest recollections.

Resolved, That a page of our minute book be devoted to a record of the life of our departed friend and co-laborer.

Resolved, That the sympathy of this Society be extended to the bereaved family and friends, and a copy of the minute be sent to the family of the deceased.

Robert N. Short, M. D., died of heart disease, suddenly at half-past four o'clock, Wednesday afternoon, December 1, 1897, at his late residence on West Main street, Mechanicsburg, aged 66 years, 2 months, and 25 days.

The deceased was born on the banks of the Cumberland River, Pulaski county, Kentucky, September 6, 1831, the eldest son of Milton Short, M. D., D. D. The Short family removed from Kentucky to Lawrence county, Indiana, when he was only seven years of age. There he worked on the farm and attended the district school. Graduating later on, from Spring Creek Academy, he fitted himself under the tutorship of Prof. E. T. Eaton, for entrance into the University of Indiana, at Bloomington. After attending the University several years, he decided upon a medical education, and accordingly began the study of medicine, graduating from the Southern Medical College in 1853, taking a post-graduate course at the St. Louis University, and later on from the Miami Medical College, at Cincinnati, Ohio.

He practiced in Louisiana, Illinois, Virginia, and at Springville, Indiana, in which latter place he associated himself with his brother, Dr. Wesley Short.

On April 12, 1860, he was united in marriage to Annie Elizabeth, daughter of Robert and Sarah Wilson, of Mechanicsburg. In 1861 he removed to Centerville, Cumberland county, where he practiced medicine until 1865 when he removed to Mechanicsburg, where he remained actively engaged in his profession until his death.

Dr. Short was a member of the Cumberland County Medical Society from its organization, and its honored president from 1876 to 1877. He was also a member of the Medical Society of the State of Pennsylvania, and of the American Medical Association. In 1885 he was appointed United States examining surgeon by pension commissioner Black, and held that position uninterruptedly until his death.

He was a prominent member of the Masonic order, being a member of St. John's Commandery, No. 8, Knights Templar, Samuel C. Perkins Chapter, No. 209, R. A. M., and Eureka Lodge, No. 302, F. and A. M. He was also a member of Lodge No. 215, I. O. O. F.

At the age of 18 years he was immersed and taken into the Christian Church in his native State, and was always a warm admirer of that learned and eminent Divine, Dr. Alexander Campbell.

In the death of Dr. Short the community suffers a great loss. In him goodness, courtesy, and dignity were happily blended.

*D. L. McDonald,
Wm. E. Swiler,
P. R. Koons,
Committee.*

Current Medicine.

SCHENCK'S SEX RESEARCHES.

Professor Schenck's pamphlet on the predetermination of sex has appeared, and its contents will somewhat disappoint those who have been anticipating sensational revelations. His essay entitled "Einfluss auf das Geschlechtsverhältniss" is just such a production as might be expected from a man of Schenck's scientific standing. It is a careful statement of the whole question up to date, and enumerates the conclusions to which its author has been led by his researches.

The first part of the work consists in a commentary upon previous researches, going to prove that the sex of offspring is dependent upon the state of parental nutrition, and particularly that of the mother during pregnancy. In the development of the embryo the generative organs are at first indifferent or hermaphrodite. In the further process one set predominates. This must be due to a predetermination which pertains to all the cells of the body. This predetermination may precede fertilization, a fact which is confirmed by observations on bees.

Particular notice is taken of crossed sexual heredity by which each sex tends to propagate the other. The experiments of Robin and Thury tend to prove that a nutritional factor in the parent impresses a sexual destiny upon the cells of the embryo.

In the second part of his essay the fact is enunciated that the better the female is nourished the more females she produces, the number of males remaining constant. Thus the crossed inheritance tendency whereby males are naturally expected is modified by nutrition. This state of the organism's repletion is shown by the urine. For the perfect ripening of the ovum, the oxidation of the excreta must be shown to be complete. If there is a sugar residuum or equivalent in the excreted carbohydrates, a deficient oxidation factor exists whereby the properties of the foetal protoplasm cannot be developed, and hence in accordance with the theory of crossed inheritance. "When no sugar is secreted, not even the smallest quantity, then the ovum will be developed, which is qualified to become a male individual." This is the cardinal point of Schenck's doctrine, and leads to the conclusion that appropriate nourishment before and after impregnation will lead to the conception of male children alone.

If therefore a male child be desired, the maternal urine must be found without the sugar, which is normally recognizable by the phenyl-hydrazin test. Schenck quotes numerous examples of the bearing of female children in cases of glycosuria. The desired modification by diet is usually accomplished by the administration of proteid and fat.

There is something between the sublime and ridiculous in the outcome of these researches of Schenck's. The results of his investigations have been awaited with agitated expectation in the scientific world, and now to find that the whole question is one of sugar is in the nature of a sweet surprise. That the production of females is due to overmuch sweetness is a conclusion that may be more pleasing to the gallant than the

scientist; while the misogynist will concede that the oppressions of the sugar trust are insignificant compared with these saccharine aberrations of Nature. If Schenck's conclusions are true, physiological glycosuria is an important condition to achieve for those nations whose populations are declining from lack of preponderance in the female elements.

The conclusion to which Schenck's researches lead is that while the births of males can in certain cases be predetermined, the voluntary production of girls is still a problem in which the embryologist will find opportunity for future labor and speculation.—(Medical Age.)

TAX ON PROPRIETARY ARTICLES.

On July 7 the Internal Revenue Bureau prepared a circular for the instruction of collectors regarding the use of stamps required by schedule B of the War Revenue law. Its publication was suspended at that time to permit manufacturers of pharmaceutical preparations to present arguments why, under the last clause of section 20 of the act, there should be a modification of the rulings relating to those preparations. The circular was issued July 27, and after quoting the part of section 20 referred to, says:

"This is undoubtedly entitled to peculiar weight as a legislative interpretation of that part of schedule B which relates to medicinal articles. This office construes said clause as follows: 'Any medicinal article which is compounded by any formula, published or unpublished,' will be held taxable under schedule B, act of June 13, 1898, when it is:

"(1) Put up in style or manner similar to that of patent, trade-mark or proprietary medicines in general; or

"(2) Advertised on the package or otherwise as (A) remedies or specifics for any ailments; (B) as having any special claim to merit; (C) as having any peculiar advantage in mode of preparation, quality, use, or effect."

Various exceptions are detailed, and the

following recapitulation of the ruling is given:

"All medicinal proprietary articles and preparations must be stamped. All medicinal patent articles and preparations must be stamped. All medicinal trade-mark articles and preparations must be stamped. All medicinal articles compounded by any formula, published or unpublished, which are put up in a style or manner similar to that of patent, trade-mark, or proprietary medicines in general, or which are advertised on the package or otherwise as remedies or specifics for any ailment, or as having any special claim to merit, or to any peculiar advantage in mode of preparation, quality, use, or effect, must be stamped.

"All medicinal articles or compositions whatsoever, which, if prepared by any formula, published or unpublished, or held out to recommend to the public by the makers or venders or proprietors thereof as proprietary articles or preparations, or as remedies or specifics for any disease or diseases or affection whatever affecting the human or animal body, must be stamped."—(Medical News.)

DESPONDENT OUTLOOK FOR SPAIN AND OTHER LATIN PEOPLES OF EUROPE.

Dr. Guido Baccelli, of Rome, who was president of the Eleventh International Medical Congress, and who has been called the Italian Virchow, has made known certain pessimistic views of the Spanish trouble. He thinks Americans are more to be dreaded by the Latin nations than the Chinese. The yellow races, he thinks, no longer menace Europe, but there is actual menace from the United States, where the expanding, absorbing Anglo-Saxon or cosmopolitan energy must grow and spread and ultimately overwhelm that part of European civilization which it does not renew. War with Spain is the beginning. Afterward it will be a mere question of the "survival of the fittest." In other words, says the *Journ. Am. Med. Assn.*, the humanitarian instincts

and voice of the northern races must be listened to and taken into the account by the more heartless and tyrannous people of the south of Europe—and in the name of sweet clarity is it not about time that a new leaf should be turned? Americans are not anxious for territorial aggrandizement, but it is due from us to those countries that may come to us by conquest, that their kind of government shall cease to be of the Spanish variety. And further, when the Latin peoples are entirely ready for arbitration instead of war as the standard method of settling international troubles, they will find in the United States a hearty friend of peaceful measures. We do not love war, the destructive arts have been cultivated far less than the constructive ones, so that some of our good friends across the water have actually fallen into the belief that any old nation might bite its thumb at us with impunity. As Artemus Ward might have expressed it, "Arbitration is the best bolt of the alleged decadent Latin peoples of Europe," and the same may be said on behalf of the peoples that are coming strongly to the front.

But there must first be an end of Spanish arrogance, bluster, insufferable assumption, sanitary crimes and unspeakable cruelties. Pending the general adoption of the wholesome principle of arbitration as a means of settlement of international difficulties, we rely on the persuasive cannon of Dewey, Schley, Miles, and Shafter to teach the Spaniard his unwelcome lesson.—(Dietetic and Hygienic Gazette.)

GERMANY REQUIRES THE FORMULA TO BE PRINTED ON ALL "PATENTS."

It is forbidden to sell "secret remedies" in Germany, and the Ministry of Commerce and Industry has just announced for the guidance of the courts what is meant by a secret remedy. All remedies not sold under a prescription from a doctor must have the formula of its contents printed on the label. This formula must be written not in Latin,

but, when possible, in the vernacular. It must be intelligible not only for a doctor or pharmacist, but for any one who wishes to buy, and it must be sufficient to enable a buyer to decide whether the ingredients contained therein are such as may be reasonably expected to give relief, and whether he is paying a not unreasonable price for the amounts of the different drugs which are being bought.—(Bulletin of Pharmacy.)

HYDROPHOBIA.

Speaking on this subject in his address at the last meeting of the American Medical Association, Dr. Geo. M. Sternberg, Surgeon-General of the U. S. Army, says: "It is a remarkable fact that some physicians still contend that the deaths which occur from hydrophobia in persons treated by Pasteur's method are due to the treatment and not to the bite of a rabid animal. If there is anything definitely settled in medical science, we know that there is an infectious disease which we call hydrophobia, or rabies, which is transmitted from one animal to another and from animals to man by inoculation, through the bite of a rabid animal. Yet this well-established fact is denied by certain physicians."—(Bulletin of Pharmacy.)

FOR TAPEWORM.

Pomegranate-root bark, 4 drs.; Pumpkin seed, $\frac{1}{2}$ dr.; powdered ergot, $\frac{1}{2}$ dr. Boil together in eight ounces of water for fifteen minutes and strain. Rub 2 minims croton oil with 2 drams powdered gum arabic; then add one dram of malefern and make an emulsion with the foregoing decoction. The whole at one dose. The worm will be expelled in about two hours.—(Medical Age.)

GASTRIC HYPERACIDITY.

R Sodii sulphatis 5 i
Potasii sulphatis gr. lxxx
Sodii chloridi 3 i
Sodii carbonatis 5 vi
Sodii boratis 5 iiss.

M. Sig. Half a teaspoonful in half a glass of warm water before breakfast and two hours before the two other meals.—(Wolff.—Medical News.)

PARTIALLY UNITED FRACTURES OF THE TIBIA.

Muller (*Centralblatt fur Chirurgie*, June 4, 1898) has repeatedly noticed that after apparently good union, with good callus formation and absence of pain, patients complain that the affected limb will not support their weight. In such cases skiagraphy reveals the fact that the broken ends of the bone are partially dislocated laterally. While by manipulation there is observed an abnormal elasticity of the shaft of the tibia, the sensation of non-support is largely psychical. Muller puts these cases upon a supporting splint-dressing, which enables them to walk.—(Med. Review of Reviews.)

Sansom found the average age of death in cases of mitral stenosis (in 61 cases) to be 32.7 years. Hayden, in 42 cases gave 37.8 years. Broadbent, in 53 cases, gives the average as 33 years for males, and 37 to 38 years for females. Samways, studying the post mortem records at Guy's Hospital, London, for ten years shows that the average age at death, males and females together, was 38 1-3 years.—(Clinical Review.)

DEATH TO CORNS.

R Ext. of cannabis indica 1 part.
Salicylic acid 10 parts.
Oil of turpentine 5 parts.
Glacial acetic acid 2 parts.
Cocaine (alkaloidal) 2 parts.
Collodion q. s. ad. 100 parts.

M. Apply a thin coating every night, putting each coating on top of the preceding one, until finally the whole drops off, bringing the indurated portion, and, frequently, the whole corn with it.—(National Druggist.)

THE RESPONSIBILITY FIXED.

As gradually the truth leaks out, the members of the medical profession are becoming more and more convinced that the neglect and incompetency from which the sick and wounded of the United States army have suffered, is to be charged upon the War Department and a commanding general, and not upon the medical officers, high or low.—(Philadelphia Polyclinic.)

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Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

Original Articles.

[Papers read at the meeting of the Medical Society of the State of Pennsylvania, at Lancaster, May 18, 1898.]

A STUDY OF THE ETIOLOGY, DIAGNOSIS, PATHOLOGY, AND TREATMENT OF TABES DORSALIS.

WITH SPECIAL REFERENCE TO PRECOCIOUS LOCOMOTOR ATAXIA AND THE ARGYLL-ROBERTSON SYMPTOM (WITH A TABULATION OF 94 CASES).

By F. SAVARY PEARCE, M.D., OF PHILADELPHIA,
Instructor in Physical Diagnosis, University of Pennsylvania;
Fellow of the College of Physicians of Philadelphia.

Having noticed a number of odd relations of pupil affections in the tabes, both as to time of appearance of ataxia and of irregularity of this sign, the writer began research upon the subject. The notes from which this tabulation was made were so well taken in the majority of instances that jotting down interesting data from time to time

made the study finally broader in its scope than was entertained at the outset of the research.

It is with the kind permission of Drs. S. Weir Mitchell, Wharton Sinkler, and Morris J. Lewis, that I have been permitted to collate all the cases at the Orthopædic Hospital and Infirmary for Nervous Diseases, reporting at the clinics up to date, (many of whom received from time to time, house treatment in addition. Some have been included in the paper on "Tendon-Jerk and Muscle-Jerk in Disease," by S. Weir Mitchell and Morris J. Lewis—*American Journal of the Medical Sciences*, N. S., Vol. XCII. 363.) The eye examinations were in most instances made or confirmed by Drs. de Schweinitz and A. G. Thomson. Dr. Chas. A. Oliver has also kindly placed notes of 28 cases of tabes examined by him, taken from a collection of 87 cases, which this gentleman is compiling for a monograph upon

The "Eye" in Locomotor Ataxia. These latter are private cases and records of cases admitted to the Philadelphia Hospital nervous wards during 1895, '96, '97 and '98.

History.—This disease has been known in a vague way since the time of Hippocrates, and more exactly since Romberg's description.*

Definition.—Tabes — tabes dorsalis — locomotor ataxia — (Duchenne) or posterior sclerosis, is a degenerative disease of the posterior columns of the spinal cord or the peripheral sensory nerves, or both, and is manifest, when considerable, by incoördination, Argyll-Robertson pupil, peculiar pains and defective sensibility. There have been given varying significances by different observers to each. The name tabes dorsalis is to be preferred (as meaning wasting of the back, by the older observers; but as now histologically understood, a sclerosis of the posterior columns of the cord), on account of the fact also that incoördination may be absent in the incipency of the disease, and further that incoördination is not always found in the legs primarily, as has been reported by S. Weir Mitchell and others. Indeed, in the rarest instances, incoördination is a meagre symptom of this system sclerosis.

Ætiology.—Erb and Fournier lay great stress upon the syphilitic origin of tabes, and to this acquired dyscrasia undoubtedly the majority of cases can be placed (perhaps 80 per cent). This must be due to specific spinal anæmia, or to the syphilitic toxin, poisoning the centers. Remembering, however, that when syphilis is the ætiological factor, tabes is a remote consequence (a grand-parent of the disorder—Mitchell), one cannot hope to cure, or even more than stay the progress of the disease, even when known to be of specific origin.

Apparently mild syphilis seems more apt to produce locomotor ataxia, but as we be-

lieve this is really not true, but rather that it is due to a determination of the specific disease to the central cord neurons; and hence, the laity statements of an eruptive disease "going in" being a bad omen, really seems to have some foundation in fact. It usually requires some extraneous exciting agent, as overwork, to induce this degeneration of the posterior columns of the cord in most cases of tabes of however remote origin. Thus trauma, exposure to cold and wet, overwork and mental strain, are such potent inducing causes, which should be given greater weight, as is shown in our cases here tabulated. Hereditary nerve disease does not seem to count much in causation.

We are more inclined to think the immediate cause of the sclerosis is due in slow forming cases, as said, to spinal anæmia, the proportionately smaller vessels known to be in the posterior cord, being affected by endarteritis and their lumen lessened, than that it is due to micro-organismal infection; as well as from the fact, too, that hardening of the arteries (arterio-sclerosis), begins in early middle life (and more in males), the time for developing tabes. This theory is also substantiated by the fact that anterior poliomyelitis is an acute disease occurring in the young, and is situated in the anterior horns of the cord, where the vessels are proportionately larger. Also as infantile palsy most frequently develops in summer, as proven by Sinkler's statistics, very certainly it must be due to micro-organisms' ready entrance into the anterior horns, for the anatomical reason given, and from the further fact that bacterial infection is more common in the heated season, when, too, the blood vessels of entrance of the poison must be dilated *ad maximum*. We know more of this since the discovery by J. K. Mitchell that blood corpuscles, per c. m., are increased enormously with varying causes (as massage) or, no doubt, with thermic conditions, or in varying barometric pressure and at different altitudes, attending proof of which the

*Lehr, der Nerven Krankheiten, Berlin, 1851, p. 185. (Savage's Classics, N. I.)

writer has some interesting surface temperature records.

Therefore, as to posterior sclerosis, repeated congestions, either from cold or wet, or as would typically take place in malarial "chills," would cause congestion, sub-acute inflammation, occlusion of the smaller posterior column vessels, and the sclerotic anæmia result.

The micro-organisms of well-defined infectious diseases are not known to be causative of tabes dorsalis. Malarial poisoning, however, to my mind, must be more frequently a remote though latent cause of tabes, producing the aforesaid conditions—spinal congestion, endarteritis and sequent anæmia; sequent sclerosis. To the toxin poison of the plasmodium, we might also suspect a potent ætiological factor for such sclerosis in a malarial cachexia, where indeed the nosological diagnosis is frequently overlooked without careful blood examinations.

The accepted so-called easy immunity of the human body to these protozoa in the light of this, may really be a mistaken conclusion. As with syphilis, it, no doubt, may start the same process of cord congestion—endarteritis, anæmia, sclerosis—of the posterior columns. Rheumatism may act in the same way. Our tables show a sufficient number of cases of tabes following exposure as to confirm this. The trite saying of H. C. Wood, in his lectures at the University, that, "Gentlemen, when you have a difficult case of aberrant form, look to the trio of diseases—malaria, syphilis, or to rheumatism," can well apply to the ætiology of many cases of tabes.

Symptomatology.—A syndrome in semi-ology, with cardinal points obtained in most cases—the incoördinate gait, fulgent pains, the Argyll-Robertson pupil; but careful observation proves that this status is by no means as frequent as supposed. Then the stages, pre-ataxic, ataxic, paralytic, are such relative terms as to be only a help in

determining this from other simulating affections.

Undoubtedly, at the present state of our knowledge, when we are able to diagnose tabes with difficulty, or ever so easily (from the co-related symptoms), the process must be even then histologically well advanced. It is with the idea of helping in early diagnosis, and therefore to most effective treatment, that we shall give some aberrant symptoms noted in the pre-ataxic stage.

According to Raymond, the better recognized incipient forms of tabes are: (1) The eye type, amaurotic; (2) The painful; (3) The gastric; (4) The articular type (arthropathies). Manifestly this relation depends upon the part of the nervous system first involved. Beyond this, or later in the course, coördination may be much delayed, e. g., in the legs, where the disease is progressing more rapidly higher up than in the more usual thoraco-lumbar region.

Dr. A. G. Thomson and the writer have frequently observed together the aberrant forms at the Infirmary for Nervous Diseases, and have noted more especially, two conditions, viz.: where the history not infrequently is obtained that the eye symptoms long antedate the spinal, or vice versa. We feel sure the more careful attention as to this in the observation in our cases, will be of great value in diagnosis, more in prognosis, and most in treatment. I have also felt that precocious cases more constantly than the usual later developing forms, do not so often present the Argyll-Robertson sign, but do the Romberg symptom portionately greater, as though the lower peripheral neurons were more affected in young persons and by wider spread lesions for the anatomico-physiological reason of vascular resiliency given. The Reber and Wilmarth theory* of the explanation of the Argyll-Robertson pupil, as due to circulatory disturbance from occlusion of arteries in the finer vessels between the optic and oculo-motor centers, seems plausible

*Transactions Med. Soc. of Pa., 1896, Vol. XXX.

(likewise does an early occlusion of these finer vessels of the cord, together with the important factor of the length of the reflex arc, explain the early absence of knee-jerk); and this, we maintain, is the reason for the less frequent Argyll-Robertson phenomenon in young persons. Their more resilient vessels are not so quickly occluded from carrying nutriment to the eye centers.

Sudden onset of tabes is likewise less frequently associated with the Argyll-Robertson pupil pointing again as though the cord were much earlier involved in rapidly developing cases, than the oculo-motor centers. I reported such a case before this Society in 1896.¹ When the pupil is involved in precocious cases—those we have observed have been more of inequality and iridoplegia, the pupil being generally in myosis, apparently due to irritation of the third nerve nuclei. Such a case of our series is typified in A. G., aet. 22, deaf from birth; no syphilis—first attacked with eye symptoms at 19, followed by meningo-myelitis, increased reflexes (ataxic paraplegia), with a resultant lessening of K. J.'s very marked ataxia, pains, paræsthesia and other phenomena of tabes, pupils of pin-point size and unequal. In this case, under treatment, the knee-jerks have partially returned and ataxia of the hands is especially bettered. Movements were and are an important factor in treatment of this precocious case.

One of the cases in our list, in a colored man, and of specific origin, has shown much improvement since being reported in my "Brown-Sequard"* paper before this society in 1896. We feel that greater round-cell infiltration and less true sclerosis takes place in the black race.

So much has been written upon the classic forms of locomotor ataxia that it might seem repetition to say more, yet the consid-

eration of the development of some of these unusual forms of the disease, it seems to us, opens up a new chapter in semeiology, in the careful study of which indications appear, and, therefore, treatment may be the better directed towards staying the progress, especially of the acuter cases. The importance of the thoroughness of any therapeutics of the malady should be insisted upon from indications thus determined, and confidence of the patient gained by timely diplomatic forewarning of the ultimate nature of the disease, in order to secure the best results. Then, too, if the sclerosis is not so happily checked, the pathological change in the posterior columns of the cord may occasionally be stayed, at least, from advancing so rapidly, as we have seen by such guidance in some cases that were, prior to conscientious adoption of systematized treatment alone, making rapid strides for so chronic a disease we know tabes to be. Aside from this critical study, the relief of distressing symptoms can be frequently attained by simple methods directed towards the rational understanding of the individual case: e. g., in the paper referred to last, the value of testicular fluid injections in 19 cases of ataxia (11 of which were improved) was pointed out, as well as its use in other nervous affections. Since then, as mentioned in my conclusions of the record, continued use of the drug has proved its efficacy in a limited number of cases.

The following rare case, illustrating the precocious type of Duchenne's disease, and with unusual ætiology, is here recorded: S. M. T., Aet. 22 years., of Irish-American parentage, reported for treatment at the clinic of the Orthopædic Hospital and Infirmary for Nervous Diseases, in the service of Dr. S. Weir Mitchell, to whom I am indebted for the privilege of making this abstract of detailed notes. The patient's mother was said to be epileptic. He has three brothers and two sisters in splendid health, and there are no nervous or diathetic maladies in his ancestry or among liv-

1. *Journal of Nervous and Mental Diseases*, Jan., 1895.

*A Clinical Report on the Use of Testicular Fluid Injections. *Transactions of the Med. Soc. of Pa.*, Vol. XXVII, pp. 165-79.

ing relatives. The mumps and measles were the only diseases of childhood he had had; never any convulsive disorder. There is a vague history of stammering in childhood soon recovered from. He grew to be a bright child, and in every way apparently normal. Has never been a drinker, except occasionally of beer, and but periodically an excess of this, and there is absolute denial of syphilitic infection. No signs of specific disease can be determined. There is no history of metallic poisoning. He went to school until 14 years of age, since which time he has been in the livery, and later in the insurance business, at which for three years previous to the onset of the present trouble, he walked excessively as a collector; at times upon his feet 8 hours daily. The onset of his disease, he dates from December 16, 1895, when he was twenty years and three months of age, and immediately succeeding a severe attack of malaria, in which sweating, high fever, a dull pain in the thighs, especially down the sciatic regions, violent vertical and frontal clavus-like headache, with anorexia, were symptoms. There was no convulsion nor paralysis. He lay prostrate for one week, and was then taken home from his boarding-house, some thirty miles distant. One week later, though very feeble, he was about again, but both legs now began to "jerk," and for that reason, walking became difficult; it aggravated the condition so much that his gait became unsteady, and he soon developed a sudden cardialgia upon such exertion as walking even a block. Then stiffness on rising in the morning made manifest and added to the annoyance of the subjective and objective jerking of his lower extremities. The præcordial distress became rapidly worse on the slightest exertion.

Perhaps a month later, lightning-like pains down the posterior aspects of thighs and legs became harassing, and have continued intermittently ever since, in addition to which extreme fatigue in walking and the

cardialgia crises mentioned, were a triplet of ætiological factors practically totally disabling our patient. He had no vertigo; bladder and bowel coördination remained normal. His vision was in no way disturbed, nor was the sexual function. There was no sensory disturbance developed other than the lightning pains noted.

Marked ataxic gait with increase of the above complex of symptoms had developed in a very short time—a few months—and continued without abatement in spite of treatment (except as to some amelioration of pain), up to the time of coming under Dr. Mitchell's care, two years after the onset, i. e., at 22 years, when we found the following:

Status Praesens: Dark hair, nervous temperament, very intelligent, and is 5 feet 3 inches in height; weight, 125 lbs.

Motor Symptoms: Station: Eyes open—unsteady; eyes shut; sways markedly in all directions. Gait is characteristic of locomotor ataxia. There is no static ataxia, and but slight associated movements of one hand when the other is tested for manner and range of motion.

Sensory Symptoms: There is no loss of tactile, thermal, or pain sense anywhere, but he still complains of intermittent, deep lightning-like pains coming in paroxysms once or twice a week, at their acme, and located mainly in the postero-lateral aspect of the thighs, of transitory nature, and lasting from a few seconds to several minutes. The pain is worse in damp weather, mere changes of atmospheric temperature not affecting the pain one way or the other, nor does fatigue now seem to influence it. His rate of pain conduction is quick, power of localizing good, and weight sense preserved. There are no hyperæsthetic areas, but he complains some of paræsthesia of the extremities. He has no "girdle" sensation, marked gastric or other crises, the cardiac attacks having abated.

Reflexes: Plantar—tardy response. The gluteal, abdominal and other skin reflexes

are normal. K. J.'s are both absent and not reinforcible. There is no tendo-Achilles jerk, nor ankle clonus. The elbow jerks and muscle jerks are preserved. There is no localized or general atrophy, and no loss of weight. Dynamometer records: R., 145; L., 130. Hearing is normal.

Eyes: Pupils equal, normal in size, and respond normally to light and distance; discs, normal. Bladder and rectum are continent. There are no vasomotor or antedating trophic phenomena, but since childhood, the man has been able to voluntarily dislocate his left hip.

His speech is thick and clumsy. There is no true aphasia or throat crises. Deglutition is easy. Respirations are hurried, but normal, 22 per minute. Heart sounds are rhythmic, and average 78 to 95 beats per minute; pulse is rather feeble. There is no cardiac murmur. Bowels are regular; urinalysis negative. He had no fever or other evidences of suffering from malaria when reporting for treatment.

Treatment: The patient was admitted to the hospital, placed at absolute rest in bed just two weeks after his case had been treated with little avail as an out-patient. The "rest" relieved him of much of the pain, and he was further buoyed up much by testicular fluid injections. Daily scientific massage was practiced, and after several weeks he was gradually gotten out of bed and was trained in gymnastic movements, as forward extreme flexion of the body, standing with his eyes closed, and in standing upon one foot, first, with open, then closed eyes, extensions of the arms over the head, and in training his incoördinate finger movements by voluntary daily practice. At the end of seven weeks, his pain had disappeared; coördination was much improved, and he could jump from a street car in motion, something he had been unable to do for months.

When the patient was discharged from the hospital, on the fourteenth of November, 1897, he was instructed to be on his

feet but little, and to continue the gymnastic and flexion movements described, in order to re-educate his disabled centers in coördination, a treatment which begun here and abroad, has in our hands proved of value in several cases of ataxia.

On February 18, 1898, the patient returned to the city, reported continued improvement, and looks in excellent health. There is no notable difference in his nervous system, except that the extensor reflexes of the arms are more marked than the flexors, the elbow-jerks being very difficult to elicit. Coördination of hands is, however, improved.

On March 4, 1898, he reported again. His station had become much more stable, and gait less ataxic. Pain in the left hip had become an annoyance, and during the past ten days, that joint, more easily dislocated. Stretching of the ligaments in a slip while walking may account for both. The elbow-jerks could not be elicited to-day, but the extensor response to a blow was quite normal. Perhaps the defect of speech had become more staccato. No advance in subjective sensations to patient had occurred; in fact, he was much improved in every way. The shooting pain down the thighs, he had had for two years since the onset of the disease and his admission to the hospital, had entirely ceased since his discharge; also the occasional irregular vertico-lateral shaking of head, which he now tells us bothered him some before admission, has likewise disappeared. He says he is stronger in his arms, and can drive a spirited team of horses with certainty, and wished to know if he could ride horseback, which was, with some misgivings, granted; the training in such, of course, being one of the best for coördination, as they well know who ride.

On April 12, 1898, the patient was seen again, and showed improvement as to head-shaking and ataxia. The training was ordered continued.

This case illustrates one of early aberrant tabes, with absence of the Argyll-Robertson

symptom, with absence also of marked crises and girdle sense, and with a history of acute malarial intoxication, as the probably exciting ætiological factor, admitting that such precocious idiopathic predisposition may have existed. It has stimulated search of the literature, and this study of a large number of cases, but no instance of malarial poisoning has been found positively recorded as causative of tabes. We think it must be an overlooked though rare ætiological factor of posterior spinal sclerosis.

The following tables have been compiled, and will suffice to more thoroughly illustrate prominent symptoms in the cases here analyzed, the indications for treatment of the patients heretofore referred to, and the systematic management of all cases of tabes dorsalis. (See page 176.)

Diagnosis. Diagnosis must be made from spinal syphilis, which is an early tertiary lesion (tabes might be called a quaternary stage or lesion), by noting the more early involvement of the bladder in syphilis of the cord, the more widespread lesion, and the, as a rule, more irregular symptoms, as of the pupil phenomenon and the shifting nature of the disorder. Generally the irritation of the lateral tracts in syphilis of the cord is sufficient to produce spastic knee-jerks.

In Friedreich's disease, from the very early age development, the nystagmus, the lateral curve of the spine, the club feet, the staccato speech, make differentiation easy.

From poly-neuritis (many of the pseudo cases), great difficulty is sometimes experienced. Look for tenderness of nerve trunks, atrophy, and reactions of degeneration, some re-inforced knee-jerks varying in degree of response, normal pupils, and a more quick response to treatment. One of our cases was so typical of tabes as to make diagnosis not positive until a somewhat rapid cure ensued treatment. It is to be remarked that la grippe the past winter has been a potent cause of neuritis, which took on, too, this peculiar tabetic type.

From cerebellar lesion, the titubation, the

aural symptoms, more constant objective vertigo, shifting knee-jerk response, associated hysterical phenomena should not mislead.

Hysteria can mimic anything. The knee-jerk is almost never absent in toto in hysteria, nor would a suspicious Argyll-Robertson pupil be found to be bona fide upon repeated examinations.

Hypnotism or ætherization may be required to distinguish between hysterical ataxia and true tabes in rare cases; for marked ataxia and even crises may exist in hysteria: then the shifting condition of symptoms would be points. Of course, stigmata of hysteria are to be looked for, and, on the other hand, the greatest blunders are made when one disregards organic diseases, hysteria also existing. S. Weir Mitchell and J. H. Lloyd have reported interesting cases of hysterical ataxia. Patches of anæsthesia about the trunk and thighs have especially been noted by Patrick, Burr and others.

Pernicious anæmia may go on to tabes. Several cases in this series have been reported by Sinkler and E. E. Eshner; and Burr has made confirmatory histological examinations in such cases.

Prognosis. The average life of tabetic patients is from ten to fifteen or even fifty years. No one can foretell the power of resistance of the individual. Taken all in all, an early case (as is so in epilepsy), tends to be worse, for the reason of susceptibility of all tissues, and to wide-spread invasion in the young, as previously referred to in the early part of this contribution.

Complications of tabes are of central, asphyxia or syncope, of phthisis, paralysis of the bladder, or of septic cystitis and septicæmia, or of the tormenting pain per se; and finally general paralysis, really the terminal stage of the disease. Incidentally, it may be mentioned, that the voluntary attempt at deep inspiration for better oxygenation of the blood (sighing) is perhaps an

TABLE I. TABULATION OF 194 CASES OF TABES DORSALIS.

Age of Onset. (44 not given).	Age at Report. (35 not given).	Cause Given.	Cause Found. (In some not determinable).	Males.	Females.
Years. No. Cases. No. Cases.		Smoking, (Tobacco) 2 cases.	La Grippe, 2 cases.	166.	28.
20.....1.....0			Idiopathic, 16 cases.	Proportion of 6 to 1.	
21.....0.....0			Hereditary nervous diseases, 5 instances.		
22.....1.....2					
23.....3.....1		Alcoholism, 10 cases.	Lead Poisoning, 4 cases.	Eulenburg reports 128 to 21; a/s/o proportion of 6 to 1.	
24.....0.....4					
25.....0.....1					
26.....2.....1					
27.....2.....2		Exposure to wet and cold, 50 cases.	Trauma of back, etc., 16 cases.	Gowers reports proportion 10 to 1.	
28.....4.....0			Acquired syphilis traced positively in 29 cases, (1 in 6 cases).		
29.....2.....2					
30.....5.....6		Grippe, 4 cases			
31.....3.....3					
32.....2.....3					
33.....8.....2		Trauma 3 cases	Gun shot wound, 4 cases.	Complicated by general paresis, 2 cases. (Both males).	
34.....8.....6					
35.....2.....3		Bleeding Piles and operation for Piles, 3 cases §	No. of cases of congenital specific taint noted, 3 cases.	In paralytic stage, males 1, females ½	
36.....6.....2					
37.....9.....5		Syphilis, only 15 cases.	Idiopathic congestion of cord, 2 cases.		
38.....1.....4					
39.....1.....0					
40.....2.....0					
41.....5.....0					
42.....2.....4					
43.....6.....6					
44.....2.....2					
45.....3.....5					
46.....2.....4					
47.....11.....9		Rheumatism, 25 cases.	Malaria, 1 case, and 2 cases possible.	Anæsthesia outer thigh and legs.	
48.....3.....10					
49.....3.....4					
50.....0.....6					
51.....1.....4					
52.....2.....3					
53.....0.....6					
54.....0.....1		Total given, 112 cases.	Total given, 112 cases.	Overwork, strain or worry 29 cases. (1 in 9).	
55.....0.....1					
56.....2.....2					
57.....0.....2					
58.....3.....2					
59.....0.....2					
60.....1.....0					
61.....0.....0		§ Confirms our opinion as to anemia of cord being ultimate chief cause of tabes.			
62.....0.....2					
63.....0.....2					
64.....0.....0					
65.....0.....0					
66.....0.....0					
67.....0.....0					
68.....0.....2					
69.....0.....0					
70.....0.....0					
71.....0.....1					
72.....1.....					

Duchenne saw only 4 cases, and Trousseau 3 cases of tabes in women.

Average time after initial lesion in specific cases, 24 years.

Dr. S. Weir Mitchell tells me he has seen 24 cases in women.

TABLE II. TABULATION OF 194 CASES OF TABES DORSALIS.

Nationality.	Aberrant Forms.	Motor Phenomena.	Sensory Phenomena.	Knee-jerks.	Eyes.	Other Conditions Noted.
American or English, } 119 cases.	6 Cases.	Tremor marked, 4 cases	Anæsthesias in patches noted in 12 cases.	Slightly persisting, 3 cases.	Optic atrophy, 30 cases.	BLOOD. Average of 6 average anæmic cases; H -45 per cent. r. b. c. 2,464,000. ARTHROPATHIES.
French, 2 cases.	Pseudo-cases, 16.	Paresis of all muscles early, 17 cases.	Paresthesia in 125 cases.			7 cases.
German, 21 cases.		No cases of total local palsy.	Location of marked pain: most, stomach; next legs; less, arms.		Argyll-Robertson pupil 150 out of 156 noted carefully and found much less in young cases.	AMAUROTIC TYPE. 4 Cases.
Hebrew, 6 cases.	Phthisis ? in 16 cases.	Paralytic stage, 2 cases.				HEART AND CIRCULATORY SYSTEM. 2 well marked aortic murmurs, 4 systolic, mitral murmurs.
Irish, 25 cases.						Pulse above 98 in most cases; in 7 cases over 100 per minute constantly.
Colored (not pure), 2 cases.		Most all able to walk about. (Ataxic stage).	Rare laryngeal crises, 2 cases.			INTEGUMENT. Skin cold and clammy in most cases.
19 cases the nationality not given.						

endeavor of nature to reinforce the weakened vagi nerve centers.

Treatment. Treatment of ataxia is a long and careful business. By studying the ætiology and symptomatology most carefully and minutely, are the best results to be attained. We are more hopeful than most therapists, but believe, however, with Collins, that syphilis once contracted and most thoroughly treated, may still leave behind the "something" which causes degeneration of the posterior columns. In the unsuspected case, where the syphilis was thought entirely eradicated years before, if a sequent tabes does develop, it is most apt to be very incipient and perplexing in diagnosis. We have seen a private case in the practice of Dr. S. Weir Mitchell, where the most thorough anti-syphilitic treatment had been carried out by most competent men, yet the specific tabes, confusing as it was, was surely coming.

Treat syphilis thoroughly; not quitting medication for three years, in the mildest case. Keep up the general health of the patient in suspected tabes. At all hazards, look to the stomach; treat any rheumatic or other diathesis; continue small doses of iodide of potash and bichloride of mercury, which are valuable alternative adjuncts in most cases of tabes from any cause. Cod liver oil is the nutrient par excellence. Diet is paramount, and should be suited to the individual case (a most nutritious one). Donovan's solution, auri et sodii, chlor. gr. 1-60 to 1-15, sometimes act wonderfully well as alteratives. The coal-tar analgesics may be guardedly administered, but heart and circulatory depression should be guarded against. We have seen disastrous results in several instances of painful tabes. Use morphine only as a dernier resort, else you add to tabes another almost as serious a malady. The phosphates and testicular fluid injections have been proven of value to aid nerve nutrition.

Suspension by the Mitchell or Lombar

apparatus (head axilla or elbow) has been fully reported on by Guy Hinsdale, with beneficial effects in some cases. This is probably due to slight stretching of the membranes of the spinal cord, freeing the posterior roots, thus lessening reflex pain and hastening circulation in the posterior columns.

The training of coördination, also used at the Infirmary for Nervous Diseases for the past 12 years, and consisting of having the patient standing with eyes open, then closed, approaching the fingers to the nose, etc., under these two conditions; also of walking upon a straight line; a treatment recently elaborated by Fränkel—we have seen do great good, as evidenced by a case reported by the writer in the *University Magazine* for May, 1898. The more extended gymnastic measures should be used in the order of strength of the patient, i. e., whether he is in the incipient, the ataxic, or paralytic stages.

Cauterization of the spine may much alleviate pain. Bromide may occasionally be required to allay irritability of the nervous system. Strychnine is apt to do harm, but small doses of nux vomica may do good in toning up the digestive tract. Keep the bowels well open and the urine normal by diuretics if required.

Electricity in the order of Faradism and descending Galvanism, and of Franklinization are in this order of value, agents not frequently enough scientifically used. Hydro-therapy has an important role, especially of hot or of cool baths; or in the form of hot and cold douches applied to the spine especially, for five minutes daily, it is often of great stimulating power.

A "rest" treatment may be the essential for the best results in a stubborn, advancing case. Such patients must never exercise to tire, and should be in the fresh air much, better at high altitudes, thus to favor peripheral circulation by decreased surface pressure. Massage and electricity properly applied, as said, are most valuable adjuncts

to systematic treatment of tabes. The use of a stimulating liniment rubbed well over the surface of the body has proved also of great value in hastening circulation, so deficient in this class of patients. The following prescription has done well in our hands:

R Ammonii Chloridi.....	ʒiii;
Glycerini.....	f ʒi;
Tincturæ Capsici.....	f ʒss;
Aque Menthæ Piperitæ q. s. ad.....	f ʒxii;

Sig. Rub well into limbs daily with massage.

CHRONIC DIARRHŒA AS A SYMPTOM OF RECTAL DISEASE.

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It is a well known fact that internal medication is futile for the cure of many cases of chronic diarrhœa. The entire range of medical therapeutics may be exhausted, and recourse found in proprietary remedies without further relief or progress toward a cure.

Not long since, a man of full habit, suffering from diarrhœa for several weeks consulted me. He had taken astringent decoctions to no avail. Believing his trouble to be of hepatic origin, I prescribed blue mass and salines, which were beneficial for a time, but the alvine discharges persisted, until a small ulcer on the left wall of the rectum was discovered and cured. A lady having an average of three to twenty stools every twenty-four hours, for fifteen years, was permanently cured by local applications to the sigmoid flexure. Hence, we may consider as significant the existence of possible lesions in the rectum or sigmoid as elementary factors in the production of chronic diarrhœa, and the necessity of local treatment both medical and surgical.

By definition, diarrhœa is a morbidly frequent and profuse discharge of loose or fluid evacuations from the intestines. The disease is essentially one confined to the large intestine, and may arise from localized or general enteritis, and is frequently preceded or accompanied by its congener constipa-

tion, the caput coli, hepatic, splenic and sigmoid flexures being the predisposing points of attack.

The fecal reservoir, consisting of that portion of the colon supplied by the inferior mesenteric vessels and plexus of nerves, is a powerful absorbent; peristalsis is less active in this portion of the canal, the fecal mass moving more slowly analward becomes deprived of its water, the dry residue begets intestinal inertia, and irritates the mucous membrane, terminating in hyperæmia, inflammation and ulceration.

Though constipation and diarrhœa represent apparently opposite conditions, both are the result of a neurosis, and possess many points in common. The mucosa exposed to irritant ingesta, the colon bacillus, or the streptococcus entericus, becomes engorged through paralysis of the vaso-motor apparatus of the intestinal wall, the secretory glands and mucous membrane flood the tube, resulting in copious and frequent diarrhœal discharges, hypertrophy and thickening occurring in the mucosa, the integrity of the nerve and blood supply is impaired by pressure of the plexus of Meissner, and later the plexus of Auerbach, supplying the muscular coats, thereby inducing constipation.

The rectum is a club-shaped organ, extending from the sigmoid flexure to the anus. It is usually empty till just prior to an evacuation, and its walls are in apposition. Mucous membrane composes its lining, and certain variations of this layer constitute the valves, columns and depressions. These structures, with the peculiar blood supply predispose this organ to various diseases, producing, among other symptoms, chronic diarrhœa. To the finger the rectal mucosa has the consistence of velvet, in contrast to the smooth and indurated sensation, the result of a solution of continuity.

The Dejecta. The nature of the discharges incident to diseases of the rectum or sigmoid varies with the lesion. Watery dejecta would indicate disease of the colon, or, possibly, the small intestine, while the

products of the sigmoid or rectum consist, for the most part, of mucus of various forms, as membranous or hysterical type, shreds and jelly-like. Blood appearing in the stool may or may not be significant, but is pathognomonic of malignant disease in direct ratio to the constancy and quantity of its occurrence. Glairy and jelly-like mucus tinged with blood would indicate ulceration, while membranous casts and shreds, catarrhal and nervous states. Enormous quantities of mucus often occur, which may be symptomatic of constipation and fecal impaction. These discharges occur with severe tenesmus, and produce from five to twenty stool in twenty-four hours, for an indefinite period, just as rapidly as it accumulates. This frequency of mucous discharges with tenesmus is a sign of rectal disease. The colicky pains after stool are due to temporary obstruction from spasm and masses of mucus, and the nervous phenomena connected with this disorder appear as part of the disease.

The following diseases of the rectum are productive agents in the manifestation of these diarrhoeal phenomena, and a slight consideration of each, with treatment, will complete my task:

1. General proctitis
 - (1) Hypertrophic catarrh.
 - (2) Atrophic catarrh.
2. Ulceration.
3. Fecal impaction.
4. Polypi.
5. Neoplasms.

Ocular examination of the rectum in catarrhal states reveals the mucosa intensely injected and covered with mucus in shreds and flakes; this condition may be known as chronic hypertrophic catarrh, and excites almost constant peristalsis, by reason of its irritability in the presence of particles of fecal matter dropping from the flexure and hypersecretion. The sphincters become agitated; anal folds are everted, resulting in tenesmus, which, with frequent evacuation of mucus, constitute an unfailing sign of

rectal disease. Moreover, the denuded epithelium offers but feeble resistance to the invasion of bacilli, and absorption of toxins. Chronic atrophic catarrh is commonly found in the rectum and sigmoid; pruritus and usually accompanies, owing to the presence of small fissures in the anal folds. The mucosa appears dry and of a dark red color, with cracks in it, covered with tenacious mucus and fecal matter. Procidentia of the upper rectum is often present, resembling, on inspection, the cervix uteri. This condition is generally found in nervous patients and those of sedentary habits.

Ulceration. Probably the most prolific source of chronic diarrhoea is the ulcer. Solution of continuity may occur in any portion of the rectum or colon, but there is a usual predilection between the columns of Morgagni and posteriorly, then the flexures of the colon, commonly the sigmoid. Large quantities of pus and mucus are discharged, accompanied by intense burning, pain and tenesmus, commonly known as morning diarrhoea. Various reflexes occur, as pain in loins and thighs, tenderness over spinous processes of the cervical vertebrae. Of course, these sufferers appear haggard, nervous, irritable and dyspeptic. In ulcerative colitis, the ulcers are covered with a thin layer of muco-pus, with a granular base underneath. A positive diagnosis can be made only by the speculum. Follicular inflammation may be found in the sigmoid flexure, the mucosa hyperæmic with nodular structures and small ulcers. These patients rarely have satisfactory stools, but visit the closet often during the day; they are flatulent and dyspeptic, and the usual remedies give little relief.

Fecal Impaction. Fecal impaction with obstruction is a condition that inaugurates the ternary symptoms of abdominal pain, nausea and dysentery. The rectal discharges are frequent, consisting of bloody mucus and flaky material, together with tenesmus.

Polypi. Chronic diarrhoea may be the harbinger of the presence of rectal polypi,

single or multiple. Blood frequently accompanies the discharges. A polypus with a long pedicle has such freedom of motion that it acts as a foreign body to the rectum, generating peristalsis, mucorrhœa and tenesmus.

Neoplasms. With the introduction of Kelly's tubes to our armamentarium, it would be criminal negligence to depend upon rational symptoms alone for the diagnosis of rectal diseases. This is particularly true with reference to the insidious development of neoplasms. For early recognition of carcinoma is of prime importance, in that they may not be allowed to invade inaccessible parts, and thereby not amenable to surgical measures. Malignant neoplasms are associated with an ulcerated area above the growth, due to hyperæmia and the lodgment of fecal matter above the stricture, while below the sphincter is relaxed and the ampulla much enlarged. Syphilitic stricture usually occurs lower, and the rapid growth of the fibrous gummata allows only the tape stool with abundant mucus and tenesmus.

By the use of Kelly's tubes, the mortality from cancer of the rectum could be materially lessened from early and positive diagnosis. For in all cases of chronic diarrhœa, a physical examination should be made without exception, and the inspection to extend into the sigmoid flexure. The rectal valves will often impede the introduction of the instrument, and the inexperienced will diagnose stricture, whereas the lumen is intact. Incipient cancer will show nodules on the mucosa that are deeply injected, involving one or more follicles, and giving rise to the diarrhœal symptoms.

Treatment. The treatment of chronic diarrhœa dependent upon rectal or sigmoid disease resolves itself, for the most part, into one requiring the use of instruments and local application of remedial agents. It is not my purpose to argue that all cases of diarrhœa are thus to be treated, or are caused by local lesions; but rectal discharges

with tenesmus are certain indications for topical treatment. Moreover, the treatment will vary with the pathology; astringent or emollient applications will effect a cure in catarrhal states, while surgical procedures alone will terminate the annoying symptom.

To restore the integrity of the bowel and re-establish its normal functions are the indications for rational treatment. This is best accomplished by:

1. By keeping the intestinal canal clear of debris and aseptic;
2. By depleting the engorged mucosa;
3. By removing diseased areas.

The first two indications can be fully met by such depurative agents as the salines, rhubarb and other mild laxatives. Epsom salts holds first place in the therapeutic management of chronic diarrhœa dependent upon localized lesions of colon or rectum—a half ounce administered every alternate morning; its action consists in a "blood-letting" of the mucosa, with subsequent capillary contraction, quiescence and asepsis. In this condition, local applications through Kelly's tubes to the sigmoid or an Allingham speculum, if in the lower segment, will usually clear up a case of obstinate diarrhœa as by magic, whether the lesion be catarrhal or ulcerative. A simple method, and one which I generally practice, is by the use of injections through a No. 7 Wales' bougie or Cole's sigmoid irrigator.

The best remedies for topical use are nitrate of silver, 40 gr. to the ounce, and pure carbolic acid, in ulcers. For enemata, use nitrate of silver, 1 per cent. solution, fluid extract of hydrastis, rhatany—a drachm to the ounce of water. Boric acid—a half ounce to the gallon, is an efficient remedy. A daily dose of magnesium sulphate, followed by the local astringents will cure sigmoiditis and catarrh of the rectum in from ten days to a month. If there is evidence of active inflammation, these remedies may be alternated with oil preparations, containing iodoform and bismuth.

The surgical treatment of ulcers consists of multiple incision, curetting and excision. Usually the curette suffices, in that it removes the unhealthy base and revives the indurated edges. I cannot, in the limits of this paper, describe the use of Kelly's tubes, nor is it necessary, since recent medical literature abounds with its technique.

The simple removal of polypi has cleared up many an obstinate and obscure case of chronic diarrhoea. This is done by ligating the pedicle near the base, and excision or removal by torsion. Hemorrhage is the chief danger, since every pedicle is apt to contain a good-sized artery.

The surgical indication in diarrhoea caused by obstruction is to perform celiotomy to remove the fecal impaction. Of course, less radical measures should be exhausted.

Stricture of the rectum within a finger's length above the anus in 80 per cent. of cases is gummatous, but rarely amenable to specific treatment. The fibrous neoplasms are firm, and run in every direction. Dilation or multiple incisions are of little avail. Extirpation is the only procedure that will terminate the unpleasant train of symptoms.

That disease most to be dreaded by the rectal surgeon—cancer—so insidious and extensive in its invasions and loathsome and destructive in its results, baffles our skill in efforts to eliminate; but by early recognition, before the lymphatic glands are infected, a cure is among the probabilities. Chronic diarrhoea arising from this disease is the only desideratum to these poor sufferers, and the best that can be offered are palliative measures; for the intense burning, the oil and bismuth preparations promise the most relief.

Oleum Phosphoratum, U. S. P., is a one per cent. solution of phosphorus in expressed oil of almonds. Each minim contains a little less than the 1-100 of a grain of phosphorus. It is well adapted, in this form, for administration in cases of ricketts, and may be combined with cod liver oil, or given in the form of emulsion. Dose about one drop.

SOME CASES OF RECTAL SURGERY.

By ALEX. CRAIG, M. D., OF COLUMBIA.

Prior to leaving our "Alma Mater" to begin our professional lives, my class was favored with many kind words of advice from our teachers. The last to address us expressed regret that his colleagues had left so little good advice for him to advance. The preceding speakers had been so eloquent that he feared to repeat their remarks, so he bade the class good-bye in these words, "As you wish to prosper in life, to be happy, to have clear minds, and to enjoy good health, in the journey you are beginning, my advice to you, as we are about to separate, is, always try to keep your bowels regular." It was an odd and, perhaps, not a very elegant farewell, yet after years of experience in my profession, I am convinced that the counsel had far more in it than appeared upon the surface. When we consider the suffering that accompanies diseases of the lower bowel, we can realize the importance of its hygienic care. Constipation is the cause of a large proportion of the diseases of this portion of the alimentary tract.

The most common pathological condition of the rectum is hemorrhoids. While the most frequent cause for this condition is probably constipation, yet the other extreme, diarrhoea, may give rise to the same condition of affairs. I will not consider the pathology of hemorrhoids, but will simply refer to a few cases that I have met with in my practice, for the purpose of showing you the importance of a thorough knowledge of the subject.

The first one I would report is that of a locomotive engineer. When he first consulted me he was careworn and haggard. He had lost a great deal of time from his duties, and told a sad tale of suffering and distress. Examination revealed several large hemorrhoidal masses that he could readily force beyond the sphincter. After

preparing the patient by giving a cathartic at bedtime, and an injection of hot water the next morning, I performed this operation: The patient was thoroughly anæsthetized. Let me here advise that, in operating about the rectum, the patient be put completely under the influence of the anæsthetic before you begin to work. First the sphincter ani was thoroughly stretched, then the tumor masses were drawn down and transfixed with a strong double silk ligature. The ligatures were then divided and tied in opposite directions. Next the hemorrhoids were amputated, and the stumps dressed with an idoform gauze packing to the bowel, which was supported by a compress of sterile gauze, and a "T" bandage. The strictest antiseptic precautions were observed throughout the operation. The patient made a prompt recovery, and has never had a return of his trouble.

G. M., a merchant, had suffered so greatly from hemorrhoids that he was quite unable to attend to his business. He could scarcely endure the act of defecation. He dreaded the thought of any surgical procedure for the relief of his condition. Something had to be done, so I compromised, and injected each of the tumors with a few drops of Calvert's No. 4 solution of carbolic acid. The cure was perfect, but the slough was so extensive as to make me feel very anxious for some time for my patient. Although the quantity of acid injected was very small, the patient was so anæmic and cadaverous that his resisting power was almost nothing. The experience taught me that the ligature was a far more rational and a less dangerous operation than the injection of acid.

Anal fissure is not so formidable in appearance as hemorrhoids, but, in my experience, quite as painful. A young woman consulted me some years ago, saying that she was suffering with "piles" to such a degree that life was a burden. She was a milliner, and consequently led a very sedentary life. She dreaded the movement of her bowels, and in consequence there was extreme con-

stipation. I suspected fissure, and asked for an examination of the rectum. My anointed finger had scarcely been passed within the sphincter until I detected a deep fissure extending up the back of the rectum for at least an inch; there were no "piles." Her sufferings had prepared my patient to submit to any treatment I might suggest. I, therefore, had her prepared as for an operation for hemorrhoids, and after complete anæsthesia, I stretched the sphincter thoroughly, curetted the fissure tract until all the cicatricial tissue was removed and a fresh raw surface remained. Then I packed the rectum as far as the fissure extended with sterile gauze, wet in a solution of chloral hydrate, gr. 5 to the ounce of water, supported the packing with a compress of gauze and a "T" bandage. The result was a perfect cure, and an ever grateful patient.

Recently I did the same operation on a very powerful, muscular woman. I refer to this case to impress you with one of the difficulties we sometimes meet with in these operations. Without thorough divulsion of the sphincter I never feel sure of success in these cases, and I do not remember ever to have operated on a case where the sphincter resisted me as it did in this instance.

Rectal polypi are usually harmless growths, so long as they are not caught within the grasp of the sphincter. I have never been consulted by any one for this trouble, who did not think they were suffering from hemorrhoids. The diagnosis is usually easy, as the anus is normal in appearance when the polypus is not protruding, and the finger readily discovers the tumor attached with a slender pedicle to the rectum.

A patient, suffering from an acute bronchitis, complained of his "piles" whenever he coughed. As he was in bed, an examination was readily made, and a polypus the size of an olive brought down. The pedicle was so small that I ventured to twist it thoroughly and cut it off close to the body

of the tumor. No bleeding followed, and the "piles" were cured.

A young married woman came to me about the middle of gestation for relief from her "piles." I discovered a polypus the size of a walnut attached high up in the rectum by a thick pedicle. On account of her pregnancy, palliative treatment was instituted until after her baby was born, and she had recovered sufficiently, when the mass was removed and a cure effected.

Abscesses in the immediate vicinity of the rectum very frequently end in fistulæ. The best treatment, in my experience, is prompt and free incision, as this frequently prevents a complete fistula. When formed, a fistula can be treated successfully only by laying it open, and curetting it throughout its course and packing with gauze. Nothing has given me better results than sterile gauze wet^d in a solution of chloral hydrate, gr. 5 to each fluid ounce of water. Several months ago I was taken by one of my colleagues to see a patient of his. The patient had been prepared for operation before our visit. Finding a fistulous opening quite a distance from the anus, I passed my grooved director in until it came in contact with the rectum above the sphincter. I searched carefully for an internal opening, but failing to find one, I forced the director through as high up as possible, and brought it out at the anus. The incision made was very deep, but the patient made a satisfactory recovery.

Recently I was called to see a young man who was suffering from a perineal abscess, which I immediately opened, thinking my patient would get well without further trouble. A month later I was called to the same patient, who told me the abscess I had opened had never healed, and although not painful, it was very unpleasant. I advised the usual operation of laying it open, scraping and packing, to which he consented. The afternoon of next day was fixed for the time. While giving the anæsthetic, he muttered something which attracted my attention, for

up to this time he had given no cause for his abscess. After completing the operation for the fistula, I turned him over, and found a very decided phymosis. With the knowledge and consent of his father, who was present, circumcision was performed, and the cure has proven a perfect one. There is no doubt in my mind but that the phymosis was the cause of all the young man's troubles.

A young man fell from a freight car, striking upon the pointed stump of a small bush, which pierced his perineum nearly an inch back of the anus, and entered the rectum more than an inch above the sphincter. I treated the injury as I would an ordinary fistula, and the patient made a good recovery. I refer to the case because it was an unusual accident.

Several years ago I was taken by a professional friend to see a year-old baby suffering from a prolapsus of the rectum. Not less than five inches of the bowel were everted, and the constant straining made it impossible to retain the mass. As the little one was very puny, I did not feel justified in advising the operation. More than a year later I was no little surprised to find the child in the Columbia Hospital, as chubby as most children of her age. Examination showed the mass protruding through the sphincter about as before described. In my judgment amputation was the only treatment, as the mass was so large and fixed that it could not be returned. The following method was devised and employed. A large-sized test tube was inserted into the protruding bowel, with the closed end up, until the tip was within the sphincter. Then, at the "white line," a series of stitches were passed with a curved needle, passing the needle so as to feel the glass each time, and making the stitches about half an inch long. When these ligatures completely surrounded the gut, the bowel was amputated a short distance outside the line of sutures, the remaining bleeding points touched with the cautery, the test tube removed, and the

stump placed within the sphincter. The rectum was packed with iodoform gauze, and a compress and a "T" bandage applied. The child made a prompt and uninterrupted recovery, and passed from my care. I am informed that it died about eighteen months later from some form of peritonitis.

My object in citing these cases has been to show you that the rectum and its surroundings are worthy of careful study. I have not referred to cancer, stricture, and other diseases found in these parts, but I hope I have said enough to awaken an interest in rectal surgery.

DISCUSSION.

Dr. W. S. Forbes, Philadelphia: In the criticism I offer on the papers read this afternoon, would say that I confine myself entirely to what I have observed of the architecture of this organ, the rectum. I think we should never lose sight of the structure of this organ in considering its pathological conditions. In the two admirable papers to which we have just listened, I do not think that allusion has been made to the folds of the rectum. These folds are the field of a great many diseases of the rectum. I would call attention to the fact that their presence is rarely considered by writers generally. My attention was once called to the lowest one of these folds in a very sad case in an old lady, where it was only hypertrophied and had been mistaken for a hemorrhoidal growth, and from bad treatment death resulted. This lower fold is situated just behind the anterior margin of the prostate gland, and projects into the anterior aspect of the rectum. These folds are not simply folds of mucous membrane, but each one is an organ consisting of muscular tissue, arteries, veins and nerves. They are placed in the rectum just behind the most dependent portion of the bladder. The most inferior and largest of the three is not simply convex in its attached margin, but it is convex in its free margin. Its presence should always be looked for. It is on this fold that we have many of the so-called internal piles—hemorrhoids. In operations where the removal of this fold is necessary, hemorrhage of the gravest character is likely to occur, and great care should be taken to avoid a secondary hemorrhage.

Oleum Theobromatis, U. S. P., 1890, is now the official title of *Oleum Theobromæ*, 1880. The *Pharmacopœia* recognizes it also under the English name of oil of theobroma, formerly as butter of cacao.

THE RADICAL OPERATION FOR THE CURE OF INGUINAL HERNIA, BY THE METHOD OF NELATON AND ONBREDANNE.

BY L. J. HAMMOND, A.B., M.D., OF PHILADELPHIA,
Surgeon to Samaritan Hospital.

From the earliest period of which we have any knowledge concerning the treatment of disease, efforts have been made to restore hernia, but little credence was placed in any of the methods until Pienne Franco described and successfully treated incarcerated inguinal hernia by herniotomy. From this time on, chiefly through the efforts of Wiseman, Petit and Richter, until the present day, surgeons throughout the world have been striving to remedy this at times painful, and always incapacitating condition.

To undertake to recount all the efforts in this direction, would be a reviewal of the literature from the sixteenth until the present century, a task impossible, as well as impracticable; nor would such a review offer much encouragement were the investigation brought to a close without including the past twenty-seven years, for in the year 1871, the antiseptic methods brought forward by Lister made it possible to operate safely through open wounds. Following closely upon this period, Czerny, in 1876, published his methods with a series of cases in which he ligated the sac high up, and closed the canal and external ring with silk or cat-gut, and allowed the ligated sac to remain, later improving this method by removing the ligated portion of the sac. From this period more success seems to have been achieved than in all the previous years.

In 1886 MacCuen presented his method, which became very popular. It consisted in separating the sac completely from all the adjacent tissue, high up to the internal ring, not removing it, but reducing it into the abdomen, folded up so as to form a pad which would close and protect the internal

ring, completing the operation by closing the canal with chromocized cat-gut sutures.

In 1889 Halsted described before the Medico-Chirurgical Society of Maryland his operation for the cure of inguinal hernia in the male. His method in brief consists in the obliteration of the internal ring and entire canal, and thinning down as much as possible, even to the extent of ligating most of the veins of the cord. When completed, the transplanted cord lies on the aponeurosis of the external oblique muscle, and is covered by the skin only. He further advises that the precise point at which the cord is transplanted depends upon the condition of the muscles at the internal abdominal ring. If in this position they are thick and firm, and present broad, raw surfaces, the cord may be brought out there, but if the muscles be attenuated at this point, presenting thin edges, the cord is transplanted farther out. He uses uninterrupted, buried skin sutures without knots for closing the incision.

Shortly after Halsted described his operation, Bassini, of Padua, in 1890, reported his method of operation, which is similar, with the exception that Bassini always brings the cord out through the muscles at the internal abdominal ring, nor does he excise the veins; and further in the completed operation, the cord by Bassini's method lies posterior to the aponeurosis of the external oblique muscle, while in Halsted's it is between the aponeurosis and the skin. This last operation, I believe, was first adopted in this country by Dr. R. F. Wier, and has since been more widely used than any other method that has heretofore been advocated.

R. Frank, in 1892, presented a modification of Bassini's operation, basing his suggestions upon the fact that when recurrences do take place, they present themselves as direct hernias, corresponding to the external abdominal ring, therefore he designs to sink the cord from this point into a groove, cut into the anterior surface of

the pubic bone, instead of permitting it to remain in the subcutaneous cellular tissue, lining the groove thus cut, with the perios-teum, which is lifted from the bone before it is removed. Bassini has, according to the report, twice employed this method with excellent results.

In the same year Dr. Geo. A. Baxter, of Chattanooga, read before the Southern Surgical and Gynecological Society of Louisville, a method the procedure consisting of prolonging the incision through the internal opening upwards, into a more or less extensive laparotomy, as the exigency of the case may require, and finally dissection of all or a portion of the sac, from all its attachments within the canal at the internal ring, ligation of the sac being at some point within the canal. The sac is then lifted upwards into the line of the abdominal incision above the ring, and fixed. (The subsequent enclosure of the abdominal incision, canal and scrotal incision are described by diagram.) His claim for this is that the line of the abdominal incision above the internal opening diverts the expulsive efforts of the abdominal muscle from the abdominal ring to the abdominal parietes.

The success that has been achieved by these various modern operations is shown by the few recurrences that are to be recorded by these methods. MacCuen had one recurrence in ninety-eight cases. Bassini seven in two hundred and fifty-one cases. Halsted, to use his own words, has been operating by his method for four years, and up to the time of the publication of his paper, has had no failures to record, excepting six, which he claims were not operated on by his method, or where, if so operated upon, sup-puration necessitated subsequent treatment by the open method. Lucas-Champonnier reports six hundred and fifty cases, with twenty recurrences. His method consists in obliterating the entire sac and infundibulum, and strengthening the walls by crossing the flaps. Drs. Bull and Coley, operat-

ing by Bassini's method, have reported one relapse in over fifty cases.

We have, therefore, sufficient data in these recorded cases to show that the modern methods far excel those of earlier date, such as Socin, Banks, and even McBurney and Czerny.

I believe the explanation of this is to be found in the recognition of the importance of forming a new canal and a new ring; whatever method therefore be adopted, this fact must be ever borne in mind, if success is to be attained in all inguinal herniæ.

When failures do occur after the methods of Halsted and Bassini have been used, it is due to the attenuation of the abdominal parietes, this is evidently recognized by Halsted, who elects the point for transplantation of the cord, wherever the muscles are found to be most capable of furnishing support; while Frank has shown that recurrence after using this method, takes place through the external ring, which proves beyond doubt, that insufficiency of the muscles and their aponeurosis, either from weakness or attenuation, is the fault.

Were these brilliant results universally secured, there would seem to be an absence of necessity for any other radical cure operation. They are not, however, as satisfactory in the hands of surgeons generally, as they have been in the hands of their authors. Especially may recurrences be looked for in older persons, or in any of those cases where there is a faulty condition of the abdominal support. It is the recognition of this fact, I think, that justifies the method of operation for the radical cure of inguinal hernia by the method of Nelaton and Ombredanne, published in the *Press Medicale*, July 31, 1897. The object of the operation is to divert the proximal end of the spermatic cord from the inguinal canal, causing it to run through a hole made through the pubic bone. An incision is made over the length of the inguinal canal, the hernia is reduced, the sac ligated and removed, the spermatic cord is then freed from adhesions

and from its connection with the fibres of the cremaster muscle, the posterior wall of the canal is then divided on a groove-director, the incision having been carried well down over the pubes to the scrotum, the pubic bone is exposed, and a button of bone the size of a centime is removed at a point about one-third of an inch below the upper border of the pubes, with the Collin's punch forceps. A chain saw is then passed through the hole thus made, and the bridge of bone and periosteum are divided on the inner edge, preserving its periosteal connection intact on the outer side. This bridge of bone is then raised inward by means of forceps, and the cord is dropped into the perforation, after which the bone is replaced and secured in position by a suture passed through the cut ends of the periosteum. The abdominal wall is repaired in two layers, the deep layer being closed with continuous sutures carried from the conjoint tendon to pouparts ligament, the superficial layer may be closed from below upwards with the same thread.

The altered course of the spermatic cord lengthens it, which allows of more complete descent of the testicle in those in whom the latter organ is unduly retracted. The disadvantage which the authors claim may accrue from this transpubic passage of the cord, may be a growth of new bone around it, damaging its circulation. This has not occurred in any of the cases operated upon by the authors, nor in the three cases that I have so operated upon. As they state, before the latter condition could advance far, certain pressure symptoms would be noticed, such as varicocele and œdema. Should these occur, they advise that the cord be liberated by cutting a channel outward, and dropping the cord into the obturator foramen.

Of the three cases operated on by the writer, one had had complete inguinal hernia for seven years, one for one and a half years, and the other six months. The first two represent that class of cases which in

my hands, the radical cure operation by the Bassini, Halsted and Czerny methods have recurred, and the recurrence as pointed out by Frank, has taken place at a point corresponding to the external ring. The first two of these cases made uninterrupted recoveries, and are at present perfectly well, their occupations being that of laborers, one handling the pick and shovel, the other a mill hand, whose duty it is to load and unload barrels and bags of flour, certainly two occupations that should test the value of this method of treatment. The other case was a man twenty years of age, who has ultimately made an excellent recovery, whose getting up, however, was very slow, the wound having suppurated, necessitating open treatment, and later the bridge of bone was discharged, the cord, however, did not leave its new-formed bed. The man is at present perfectly well, his occupation being that of a sheet iron worker.

The dates of the operations are respectively, Oct. 23, 1897, now seven months, Nov. 16 and 24, 1897, now six months.

From this limited experience, I am led to the belief that herniotomy by this method and in the class of cases pointed out by the above authors, will have fewer recurrences to record, than any method that is now employed.

I would like to say in conclusion that it is my conviction, without trial, however, that the intra-peritoneal displacement of the spermatic cord, as advised by Fowler (*Annals of Surgery*, Vol. XXIV., No. 5, page 603), in conjunction with the orchidopexy method above described, would render recurrence practically impossible.

"Did you say the man was shot in the woods, doctor?" "No, I didn't; I said he was shot in the lumbar region."—Yonkers Statesman.

A lady once asked a physician where she could he get an appetite. "Out in the fresh air," he said; "just go right out and get one. Nature has thousands of appetites to give away. The winter atmosphere is full of them. All that Nature asks is that you come after them yourself."—Ex.

THE PRESSING DEMAND FOR A REVISION AND RECAST OF THE SURGICAL PRINCIPLES, TOGETHER WITH THE BIRTH OF SOME NEW ONES.

BY G. W. HIETT, M. D., OF PITTSBURG.

If Christ is the Saviour of all mankind, and theology is the handmaiden of religion in spreading and inculcating the truths of the gospel, so may not the great, gifted surgeon of our time, with his simple science, be the saviour of his fellows from death, pain, and misery in this life. As creeds never before in the history of Christendom needed so much recasting and advancing to suit the present demands of the practice of religious truth by the civilized races, so the science of modern surgery (which, I am sorry to say, is away in the rear guard of the present practice of the art) should be recast and become more serviceable by being crystallized into a simple and true science. Gather up the great fragments of our present knowledge of the art and quickly reduce it to a plain science; let it stand out in bold relief as the fully ripened sheaves of the surgical harvest, and be righteously and eternally garnered into science before it perish or become lost in the woods or fields of knowledge, so that the mere schoolboy of a doctor can apply it with success. The facts of our art of surgery to-day are so voluminous and vast and grand, yet so scattered withal amongst the rubbish and debris of prodigious, honest, surgical endeavor for truth, that it is difficult in the extreme for the tyro, or common mind, to grasp them. Truly we have reached, or gone clear past the crystallizing stage of knowledge on this point. Let the teachers of modern surgery give us a few simple principles from the vast storehouse of molten facts before it is swallowed up in the dross of an inert, dead product, or what amounts to the same, before it becomes so vast and confusing as to be entirely too complicated and misleading in our common, everyday practice.

As the locomotive and telegraph surpass in the extreme the older and more tedious methods of transportation and communication; as the modern electric motor bids fair to outstrip and eventually supplant entirely the present locomotive; as the development of commerce and manufactures is rapidly enriching their spheres of knowledge, and fast becoming more and more scientific; as reciprocity and compensation is now a law of nations; as occupations of all kinds and of all climes are fast gaining a scientific footing; in a word, as the forces of nature everywhere and on all sides are fast being utilized by the brain and the wit, the genius and the industry of a humanity-loving people, so likewise is the great department of medicine now a conspicuous feature of every university in the land, fast gaining in truly scientific achievement, and should she now move a step farther and cast into the complete mold of scientific fact the vast store of knowledge, both medical and surgical, everywhere scattered about, its application in the practice of the profession would be manifestly very much more successful than it now is. Our science, both in medicine and surgery, strictly speaking, is as yet crude, bulky, unwieldy, and, under some contingencies, at least, quite misleading, else how can we account for so much teaching at variance to a given, common principle? The night of sober, second thought clears up the blunder of the day, and on the heels of mortifying disaster do we again repose in slumber. To be in total darkness at midday is quite as confusing and unsatisfactory as the society of a vast multitude in a strange city. On the one hand, though in the midst of splendid light, we do not see; while on the other, though in contact with countless faces, we are somewhat lonesome. Thus the cause does not rest with a lack of resources from which to construct our science, but rather to the failure as yet to condense fully the vast increments of knowledge on every hand into fixed principles. That there is now a tendency in this

direction is a satisfactory and hopeful sign. Theory on every hand must make room for substantial facts, and the latter must be conveniently grouped for ready use.

As to surgery, the time is now at hand, or should be, when we can almost, if not quite, say, "acute gangrene is a thing of the past, as well as septic infection of all kinds." The discrepancy lies almost solely with the lack of discipline on the part of the surgeon in guarding against contagion or infection. By lack of discipline, I mean here, first of all, a failure to apply a definite principle in the science of modern surgery which, for convenience, I will name the decision or emergency principle. It is not taught in the old books, I believe, neither in the new, because, perhaps, it is readily inferred or implied, at least so the teacher in surgery too often thinks. This underlying principle to correct and successful surgical practice is kinship to discipline, and belongs to the executive type of scientific surgical fact. It is also very closely related to mother wit, horse sense, common sense, discriminating judgment, etc. This is no new principle, neither is it peculiar to surgery, it is older than science or government—it always was—and its wholesome application finds a place wherever executive power is manifest. In the science of surgery, I place it at the very head of one of its grand divisions, and in class A. Just why this essential principle should have no place in modern surgical text books is past finding out. Just why more stress is not laid upon this very valuable adjunct to correct and efficient surgical practice, there is not a surgeon within sound of my voice who is ready with his answer. If so, we will hear him. I am aware I am talking today to teachers, scholars, savants in the science of so-called up-to-date surgery. Permit me to say in their behalf that every honor they have achieved in advancing the cause of surgical science has been more than fairly won. Personally I come from the ranks—one of the common soldiers only—and in this re-

spect my field of vision is of course limited, but I have had ample opportunities to observe, and among my own class of the surgical fraternity I have always striven to teach, both by precept and example, this timely and indispensable law or principle known as decision in surgical practice.

What is the value of the surgical knowledge thus reduced to a scientific surgical principle? What does it embrace? Surgical knowledge under this head has a wide range. It views with a keen, trained eye the nature and extent of disease or injury; measures the value of a tissue or organ in its entirety and its immediate surroundings; quickly estimates how much blood has been lost, at least approximately; how much impaired is the circulation, if any at all; what other functions are normal or at a disadvantage; exhibits a picture of the patient as an individual, what he likely was before hurt or diseased; sums up the mental and physical endurance which gives the vital stamp—the character of the life yet remaining, and how much it can be counted on to stem the tide where necessarily some risk must be incurred whatever surgical procedure may be adopted. More than all, it anticipates every form of disease or infection heretofore known to occur as sequelæ or complications in surgical disease or injury. It prevents mistakes and willful meddling by taking the case at once out of the category of mere possibility into the field of safe probability. It antagonizes and supplants indiscriminate, automatic, mechanical routine, and stupid and malicious cutting, and puts a fence around conservatism; on the other hand, it laughs at mere mockery in conservatism when this—as it very often does—descends to the level of ignorant and stupid inaction. The application of the principle of surgical decision guarantees the diagnosis, the prognosis, and the treatment. With the application of this principle the surgeon never gets into deep water; he knows in advance quite what to expect. Like the famous eye glasses of the

Hebrew spectacle vender, it enables the surgeon to “see three months ahead.” In the short time allotted to us for this paper the half cannot be told concerning the importance and wide scope of this item in modern surgical teaching. In the new books on practice it will demand and receive a conspicuous place. This chapter on “Surgical Decision” will put to the test the student’s or practitioner’s knowledge of all the other chapters in his book or books on surgery. It should be placed before the preface to the new book, and on its last page, and then in the middle of the volume, so as to be of easy access at all times. It is the sum total of surgical knowledge, acumen, and skill, needed by the everyday practitioner, so that he may mete out quickly and just at the right time the highest measure of usefulness as surgeon to his suffering fellow-mortal. I define surgical decision to be the science of surgical procedure in modern up-to-date surgical practice. It is the key to the whole situation. It tells you how to do it and when. It is the executive head in surgical parlance that receives and gives out all orders concerning the weal or woe to both body and mind of our common downstricken humanity. It is the headquarters for all surgical achievement and detail. This one simple underlying principle will of itself furnish data for a small surgical treatise. Its title is not copyrighted by me. Far from it. The great scholar and teacher of surgery is present here to-day, with an abundant good nature and kindness of heart, that bespeaks his compassion for the struggling surgeon in the ranks, who goes forth to apply what his teacher has taught. He will, I am sure, agree with at least some of my remarks, and upon further reflection will essentially conclude that there is a prime demand today in surgical science for a recast of its principles in part, together with a more compact and concise arrangement of the science as a whole, adding to this much additional matter from the general field of study and observation, and

grouping it in substantial scientific form so that the knowledge may crystallize and be better understood and thereby be more easily wielded in practice. The science of bacteriology has of late so revolutionized the older practice of surgery and opened up so many new fields to the art, that the very principles of former surgical teaching must everywhere be reconstructed, or indeed set aside altogether, in order to meet the present demands of modern practice. In twenty-five years, surgery made a big advance from the old science to the new. This was made possible, and was anticipated by the older teachers and writers. And now should the new science, already strong and abundantly beneficent, solidify into clean-cut principles its mass of hopeful facts, so it can be easier to know and to use, the practice of surgery as a profession will become far easier and its results very much more successful. The new comprehensive treatise on surgery then will be thus constituted and mapped out: First chapter, Asepsis and Antisepsis; second, Infection; third, Auto-Infection, as Park admirably puts it; fourth, Inflammation; and so on down the list. My own chapter on "Surgical Decision," or the "Science of Surgical Procedure," or the "Science of Discriminating Surgery," or the "Science of Executive Surgery," should perhaps be put into a little book by itself, and should be written by the most capable clinical teacher in the land, with a prime group of collaborators and a new edition of the same issued every twelve months. This, not for the benefit merely of the medical publishers, but because the age in which we live is one of intense and prodigious progress in every field of action.

Buchu, U. S. P., 1890, does not recognize the commercial variety known as "long buchu," this form containing but half as much volatile oil as the "short buchu."

Oleum Morrhuae, U. S. P., is required to be obtained from the *fresh* livers of *Gadus Morrhua* or of other species of *Gadus*. Cod liver oil is also known under the official name of "Oleum Jecoris Aselli."

PROVISION FOR THE INSANE IN HOSPITALS SPECIALLY CONSTRUCTED FOR THE INSANE.

BY JOHN CURWEN, M.D., OF WARREN.

In October, 1844, Miss Dix, distinguished for her philanthropic labors in other States, came to Pennsylvania on her mission of mercy and good-will to the insane and criminal.

She spent several months in examining the condition of the insane in the poor houses in different parts of the commonwealth, and the result of that examination was the presentation to the Legislature of a memorial in favor of better provision for the care of the insane. That memorial presented such a sad and distressing account of the condition of the insane in the poor houses, that the Legislature decided to make provision for the insane by the erection of a hospital for their accommodation.

The personal and persuasive appeals of Miss Dix to the members, had great influence in inducing them to make the necessary appropriation. It must be recollected that at that time, the finances of Pennsylvania were in a far worse condition than they have ever been since; very near to the repudiation of the interest on the debt of the commonwealth.

By the energy, activity and philanthropy of one of the members, afterward Governor and U. S. Senator, Hon. William Bigler, a bill was passed making a small appropriation for the commencement of a hospital for the insane. The hospital erected by that and subsequent appropriations of the Legislature was the Penna. State Lunatic Hospital, at Harrisburg, opened for the reception of patients on October 1, 1851.

Early in the fifties, the Managers of the Western Pennsylvania Hospital at Pittsburgh, found it necessary to open their wards for the treatment of the insane, and in a short time they were so crowded that they deem-

ed it proper to arrange for the erection of a separate building.

The corner-stone of the Western Pennsylvania Hospital for the Insane, located at Dixmont, and so called in honor of Miss Dix, who gave much time and attention to the matter, was laid in 1856, and by successive appropriations by the Legislature, was ready for the reception of patients in a few years.

The Medical Society of the State of Pennsylvania is entitled to the credit of initiating the movement for the erection of the State Hospital for the Insane, at Danville, in 1868, and the State Hospital for the Insane, at Warren, in 1873. The State Hospital for the Insane, at Norristown, was commenced after the passage of a bill prepared by the Board of Charities, in 1876, a bill, initiated by the Medical Society of the State of Pennsylvania, having been laid aside by the Committee, to pass that prepared by the Board of Charities.

A memorial on the care of insane criminals was prepared on the suggestion of members of this society, but nothing was done, though a bill was introduced, to put up on the foundations already laid for the hospital at Danville, rooms for fifty insane criminals. That raised such a bitter opposition that nothing was done.

A committee of seven was appointed in 1873, by joint resolution of the Legislature, to inquire into the condition of insane criminals, in the penal institutions of this commonwealth. After careful examination of the different insane criminals, a report was prepared, and in accordance with the provision of the resolution, a bill was presented making an appropriation for the erection of a building for that class of the insane.

That bill was presented at two successive sessions of the Legislature, but on both occasions, the chairman of the Ways and Means Committee of the House of Representatives never allowed the bill to be discussed by the committee, so that no appropriation could be made. In 1884, the Com-

mittee on Lunacy decided to transfer all the insane in the different county poor houses to the hospitals for the insane in the respective districts. In 1889, an act was passed, giving authority to the Board of Charities to transfer back to the poor houses certain classes of the insane in the hospitals. Very few have been thus transferred. In 1891, the act establishing the Asylum for the Chronic Insane was passed, and the building was located at Wernersville. The object was expressly stated in the following sections of the act:

"Sec. 7. The Commissioners, upon acquiring the necessary land, shall, as soon as temporary quarters can be provided, transfer twenty able-bodied, harmless, chronic insane, from each of the hospitals for the insane, to the premises and farm provided for said asylum, to engage in farm work, grading, macadamizing, excavating for buildings and such other employment as may be required for the reception, care and provision of the subsequent occupants."

"Sec. 14. Said Trustees shall cause to be employed skillful foremen and forewomen, to secure the safe and economical employment of the largest number of the asylum, for the purpose of enabling said inmates to contribute, to the extent of their ability, to the cost of their maintenance."

Such is a succinct statement of the progress of provision for the insane up to this date.

Bills for the establishment of a hospital for the insane of the central counties of this commonwealth, were presented to the legislatures of 1893, 1895, and 1897; but never came out of the Committee on Appropriations, to which they were referred.

Only in 1897, after the burning of the State Capitol, was any explanation given of the unconcern and indifference manifested for the care of the insane.

It will be seen that up to 1891, the uniform policy of the commonwealth was to provide hospitals for all classes of the insane, but the policy initiated in 1891, is now to

be supplanted by an entirely different policy, taking the care of the insane from the commonwealth, and placing it in hands of the Directors of the Poor of the different counties, who are expected to erect buildings on the grounds attached to the poor houses for their accommodation.

The Act of 1897 reads as follows: "That any county, municipality, borough or township of this commonwealth, which has, or may hereafter supply, erect and equip a suitable institution for the maintenance, care and treatment of its indigent insane, upon plans and specifications approved in writing, by the Board of Public Charities, shall receive from the State treasury the sum of \$1.50 per week, for every indigent insane person of such county, municipality, borough or township so maintained, who has been legally adjudged to be insane, and committed to such institution, or who may be transferred from a State Hospital for the Insane, to such local institution."

That is going backward more than fifty years. Notice, it is not the chronic insane alone, but all classes, recent and chronic are to be thus provided for. No man in the least familiar with the management of the county poor houses, with the regular change of the directors of the poor every three years, will admit that either the acute or chronic cases can or will receive proper treatment, such as they should have in medical attendance, provision for their care in their periods of excitement, or in any stage of their disorder, when the allowance for that care is only \$1.50 a week.

The fault is not in the men who have charge of the management, but in the frequent change of management. It was once very plainly and clearly stated by a director of the poor: "Just as a man becomes fairly acquainted with his duties, he is dropped off by the principle of rotation in office, and another takes his place, and goes through the same course. How can a man fairly do his duty under such circumstances? When he is really qualified, then he must step out."

Directors of the poor say plainly, that they cannot give the insane the proper care and treatment, at the rate charged to them in the State hospitals.

The State of New York tried that experiment, after the erection of the State Hospital for the Chronic Insane, at Willard, N. Y., by the authority given by the Board of Public Charities, to the supervisors of the poor in the counties, to erect buildings on the grounds of their poor farms, for the accommodation of the insane.

An investigation made by the Charities Aid Association, revealed such a condition of the insane in those county houses, that in 1890 the Legislature passed an act, placing all the insane under State care, and remanding all the insane of every class (except insane criminals, for whom a special hospital was provided) to the hospitals for the insane, and placing all the hospitals under the direction and authority of a Commission on Lunacy.

Commissioner Brown, of the Commission on Lunacy, reports that for the year ending September 30, 1896, the last year for which the results have been compiled, the ordinary expense for each patient was \$186.68, or \$3.58 a week. This sum includes all cost of maintenance of the hospitals, medical attendance, salaries of officers and nurses, board, clothing, light, fuel, cost of conveying from home to hospital, renewal of furniture, and all expenses other than for building or extraordinary repairs. Medical services and officers' salaries amount to 22 cents a week, or \$11.44 a year; wages of attendants and nurses and general employes, to \$1.23 a week, or \$63.96 a year.

These figures Commissioner Brown is apparently justified in regarding as evidence of economy and good management. Medical service in the hospitals is of a special order, and the patients require a great deal of such service, both for body and mind, as many of them are physical as well as mental invalids. As there are only 106

medical officers in the hospitals, or an average of one to each 187 patients, the outlay for physicians is certainly reasonable. A nurse is employed for every eight or nine persons, and since physical restraint, strapping to chairs and solitary confinement have been abolished, the number of attendants could not be reduced. The good effect of this manner of treatment has been so marked as to make the thought of any retrogression not one to be entertained. The sheriffs in this State draw from \$2.75 to \$4.00 a week for board of prisoners. The hospital figure of \$1.20 for board and something more, is therefore to be regarded as low. The same may be said of the clothing item. Under the old county system, it is estimated that from \$50,000 to \$75,000 a year was spent for transportation, mileage and fees being charged by officers who took patients to hospitals. Last year only \$18,000 was expended for this service. It is natural to expect the average cost of maintenance in the hospitals to be larger than in some other institutions, because the patients are for the most part unable to work; but the efficiency of the State authorities is apparent from the decrease in average cost from \$216 in 1893, the year before expenditures were allowed in advance by the commission, to the present average of \$186.68.

State care has also increased the number of cures. In the Monroe County Asylum, in 1890, the proportion of recoveries was only 10½ per cent. As a State hospital the next year the institution cured 18 per cent.; in 1892, 17 per cent.; in 1893, 18 per cent.; in 1894, 25 per cent.; in 1895, 15 per cent.; in 1896, 23 per cent., and in 1897, 18 per cent. Other hospitals likewise show more cures, and this means not only a gain for humanity, but an actual relief to the taxpayers. As the average life of an insane person is twelve years after commitment, the transformation of all the hospitals into places of successful treatment, so that about 1,500 patients are discharged annually as

entirely cured or much improved, means a large saving to the State. The item for care of the insane looks large in the State budget, but when it is remembered that for the most part it is only the consolidation in a lump of items which the same people formerly taxed themselves for in the counties, and that it is spent more wisely and with better results than ever before, no taxpayer will begrudge the \$1.10 he pays on his thousand-dollar assessment.

The assessment of one mill on all the taxable property of the State of New York has yielded all the money needed for the construction and maintenance of the different hospitals for the insane in the State of New York, under State care. A recently enacted law reads as follows:

"The people of the State of New York, represented in Senate and Assembly, do enact as follows: There shall be imposed for the fiscal year beginning on the first day of October, eighteen hundred and ninety-eight, a tax of eighty-one one hundredths of a mill on each dollar of real and personal property of the State for the support of the insane."

Why could not Pennsylvania adopt such a law?

The result of that course of action is given in the words of the chairman of that commission, a man thoroughly in earnest in his work:

"As a result of the complete operation of this system for the past number of years, of the 21,000 insane in custody in the State of New York, there is not one in a county asylum, a poor house, a jail or a penitentiary, unless temporarily apprehended for commitment to a State hospital. There is no doubt in my mind that with the experience up to this time in the State care of the insane, it is nearly the unanimous opinion of the taxpaying members of the commonwealth, that the State of New York's experiment in humanity is a success, and that it pays to be scientifically humane."

It has been intimated that the State of

New York would probably abandon their plan of State care, but this is extremely improbable, when it is known to work with such great satisfaction as the extract quoted indicates.

In their last annual report, the Massachusetts Board of Lunacy and Charity recommends "that all pauper insane persons now in city or town almshouses, or boarded in families by the overseers of the poor, be transferred as rapidly as circumstances will permit to the State institutions for the care of the insane, and to the care, custody and control of the commonwealth."

Attention was called in the message of the chief executive of this commonwealth in 1897 to an entirely different plan for the care of the chronic insane. This plan is best given in extracts from a paper by a member of the Board of Control of the State of Wisconsin:

"For each person cared for in our State hospitals, the county to which he belongs pays \$1.50 and his clothing bill to the State. For each inmate of a county asylum, the State pays the county \$1.50. It will thus be seen that a county caring for its own insane really gets \$3.25 a week on what it saves and what it receives. \$3.25 a week is about as low as most State institutions in the country are able to care for their chronic insane. Very few, counting salaries, clothing, subsistence, fuel and repairs, are as low even as this. The average weekly cost of keeping the insane in the county asylums, counting everything, is about \$1.75, which makes an average gain of \$1.50 a week for each inmate. Out of this gain, the counties that have had asylums 10 or 12 years have paid for their entire permanent investment in land, buildings, improvements and repairs. In other words, the people have paid no more than they otherwise would have had to pay for the care of these insane in State institutions, yet have been able to save enough in twelve years to pay for their entire investment in handsome buildings, large farms, barns, and the like."

"How is it that this can be done for \$1.75 per week or less?"

"In the State hospitals, the cost per patient for wages and salaries, is from \$75 to \$100 per year, while in the county asylums, with no expensive corps of officers, the average cost is about \$26.50 per capita. In the State hospitals for subsistence, the expense is about \$65, while in the county asylums, the inmates being nearly all employed in some productive work, raising to a great extent the food consumed, the expense is but a trifle over \$27 a year for each inmate."

Now it is clearly obvious from these extracts, that all that is contemplated or attempted in this plan is the bodily care of the chronic insane, and that not on a very clearly defined idea of true hygienic treatment.

If the supply of provisions outside of what may be raised in the way of vegetables, the cost of coal or of natural gas—if they are so fortunate as to have it—wages of attendants in the proportion usually considered necessary, be taken into account, it passes the comprehension of a Pennsylvanian, who has given careful attention to the subject, how they can give proper care and treatment to their chronic insane, and also buy farms and build handsome buildings from money saved out of \$3.25 a week. A resident of Wisconsin, in a position to know the facts, used the term "shocking."

"The so-called 'Wisconsin system' will not be a complete success until facilities are provided for the proper and safe care of the more noisy, violent and dangerous classes of the chronic insane; one of these cases in a county asylum will disturb the sleep of all other inmates, and in many other ways add difficulties of management."

"As a general proposition, supported by growing sentiment, the State does itself an injustice when it farms out to any private party or corporation any atom of its function for the punishment of the criminal, or

the reformation of the incorrigible." (Report of the State Board of Control for the two years ending Sept. 30, 1896.) And it might strictly and truly be added, the care of the insane.

It seems incredible that for a disorder of the mind, provision should be made for the body alone. It is true the body needs proper care and treatment, but the mental and moral powers also need as much and often more care than the physical, and in every well regulated hospital for the insane there must be provided, to insure the greatest degree of success, diversions to draw the mind from its morbid state, to more healthy action, amusements to aid in the same direction, occupation in some way or of some kind for those who are able to work, and who cannot, by reason of sex or some disability engage in out-door work.

The tendency of all these systems of care of the chronic insane is to depress. Because a man who has been a reputable citizen, and has paid his taxes and thus assisted in the maintenance (and a large proportion of those in the State hospitals of Pennsylvania are of this class) has become unfortunate and his mind disordered, he must be crowded down and made to feel that he is not what he has always endeavored to prove himself—a man. No one will deny the fact that when a man is in trouble or distress he greatly needs to be cheered and encouraged in every reasonable way, to enable him to regain his proper healthy action of mind and body. The hope of better things is a vast lever to lift a man up and help him toward a better condition; but to take away that hope and make him feel that no one cares to help him and raise him up and do him good, is putting him in a condition to impress more deeply the idea that the whole world is against him. Such a procedure is in direct violation of the great command, "Whatsoever ye would that men should do to you, do ye even so to them." It has been held for many long years, that the insane are the wards of the

commonwealth, and it is the duty of the guardian to do the best he can for his ward, and to that the law holds him strictly.

Has the commonwealth as the guardian of the insane any right in law or the dictates of humanity which should govern every man and the community as the aggregate of the men within its borders, the legal right to transfer the care of the insane to other parties who are not bound by the same force of law? If the commonwealth has the right contrary to its own law in regard to individuals, to transfer that right, then the system may have a shadow of right, but if it has not that right of transfer legally and constitutionally, then the whole system sought to be established is a violation of the principles of justice, humanity and philanthropy.

DISCUSSION.

Dr. G. B. Massey, Philadelphia: I think a few words here would be timely. The reader of this paper takes an opposite position from the previous speaker on the attitude which the State should hold towards the insane. I will not take the time of this Society, except for a moment, to express the feeling that I had when I was an assistant in one of these institutions. I felt at that time that there was a mistake made in building palatial institutions for the insane, and keeping the institutions crowded with hopeless cases, thus preventing proper care and treatment of the acute cases. There is a scientific side to this question as well as a financial side. If you will fill up your hospitals with your twelve-year cases, or cases which live from three to twelve years (and the reader places twelve years as the average limit of life of these hopeless cases), you not only deprive the acute cases of the proper care and treatment, but you degrade and lower the best efforts of the physicians, and they must continue to present the lack of proper scientific progress in their reports, which has characterized much of the State hospital literature of this State.

Extractum Belladonnae Foliorum Alcoholicum, U. S. P., is the official name of the solid extract of belladonna. The official tincture is also made from the leaves; the fluid extract from the root.

A CASE OF TABES SHOWING SOME PECULIAR REFLEXES.*

BY T. M. T. MCKENNAN, M.D., OF PITTSBURG.

The case presented is one of tabes in a man, aged 44 years; first seen in June, 1897. A well marked case presenting typical symptoms, diagnosis confirmed by Dr. Janeway, of New York, and Dr. Diller, of Pittsburg.

When first seen, there was entire loss of deep tendon reflexes in the legs, and no muscular reflexes. Sensory crises severe in legs. Detrusor power over bladder very poor, foot drop on right side, specific history dating back 22 years. Married 15 years and wife has never been pregnant. A three-months' course of iodide (maximum dose 60 grs. t. i. d.) resulted in considerable improvement in his condition, and he has been entirely free from pain.

The detrusor power over bladder has improved very much. His nutrition is better, and there has been a gain in weight. Foot drop does not exist. The knee-jerk has not returned, but a tap on the patellar tendon causes an extension of the foot, due to a contraction of the calf muscles. This aberrant reflex appears in about one second after a tap on the patellar tendon. Continued tapping of the patellar tendon causes a fibrillary movement in the calf muscles. There is no reflex from the tendo Achillis. Muscular irritability is marked. When a sharp blow is struck the quadriceps extensor, the same phenomenon is exhibited as when the patellar tendon is struck. A blow on the anterior tibial muscles causes flexion of the foot with abduction due to the tibialis anticus, and a blow on the peronei muscles causes flexion of the foot with abduction.

It seems to me that the aberrant reflex exhibited by the patellar tap is quite interesting. The reflex arc is quite evident. The afferent impulse is communicated to the spinal centers, and the efferent impulse,

instead of going to the quadriceps extensor, goes to the muscles of the calf of the leg.

The interest in this phenomenon, it seems to me, lies in its being another proof of the existence of a true arc in reflex action, for it is inconceivable that in this case the reflex exhibited can arise in any other way than through an efferent impulse from the cord, the afferent impulse having been set up by the blow to the tendon or muscle.

HYPNOTISM—DOMINANT—RELAXANT.

BY GEORGE E. BILL, M.D., OF HARRISBURG.

It is not generally known, that there are really two forms of hypnotism, and that one or both of them, are in the majority of hypnotic seances, unconsciously used. Cerebral, or as the writer prefers to name it, dominant hypnotism, is that kind which is the oftener and more knowingly employed by the operator upon the subject, and consciously perceived by the latter, through a tacit arrangement existing between both. It has for its basis of activity, the general law of mental or oral suggestion, formulated at the School of Nancy. In well-informed quarters, its value is well understood, and its range of activity in the cure of disease and in the amelioration of suffering, is becoming widely recognized. There is still another form of hypnotic activity, however, which is not so well understood, but which deserves the closest scrutiny, and the most careful investigation. Its estimation, its elucidation, absolutely, cannot be entered upon unless the observer thoroughly familiarizes himself with the phenomena of the sympathetic nervous system, as displayed in the so-called subjective symptomata or subjective sensations of the patient—and operator as well.

This physical fact, for it is really a fact in physicisism, since the sensations of both subject and operator are, let it be understood, not at all imaginary, cannot be too

*Read by title before the Medical Society of the State of Pennsylvania, May 18, 1898.

strongly insisted upon, or the distinction between the two forms may not be realized. These subjective sensations, to which the writer refers, are too commonly ascribed by the physician and laity, to the imagination of the patient or subject, as the case may be. Apropos of this observation, too often, is this word "imagination," an excuse for ignorance. Its use is really on a par with the employment of the expression, "nervousness" so often uttered by the careless or busy physician, or the would-be wise friend, relative, or bystander. The very term "nervousness" merely denotes the vibratory energy or molecular energy, as displayed in the marked disturbances in the equilibrium normally existing between the cerebral and the sympathetic nervous systems, which disturbances never occur when these two systems are in thorough accord with each other. Now there is only one exception to this last statement. There is a non-equilibrium between these two nervous systems, artificially and temporarily established, when the hypnotic operator begins or essays the use of the relaxant form of hypnotism on the subject. To properly call forth a subjective expression of these sensations or symptoms, it is not at all necessary for the patient to be prepared for, or to be ready to receive an hypnotic treatment at a stated time. Such a preparation would intimate a so-called condition of expectant attention on the part of the subject. On the one hand, the subject may receive his or her treatment, in an attitude of expectant attention, or may receive it, unexpectedly or unexpectedly; for instance, when one mile or ten, or fifty or five hundred miles away from the operator. While the subjective sensations of the subject are alike in both instances, the ordinary employment of the relaxant form, however, as made in ordinary proximity to the patient, gives rise to a sharper expression of the phenomena of vibratory motion in the subject, and is evinced in his or her person in the shape of a peculiar fluttering or trembling of the ab-

dominal region from the area of the sympathicus pubis to the epigastric region or the area at the pit of the stomach. This whole area corresponds to the range of the solar plexus, and is the area always affected, when the relaxant form of hypnotism is employed upon the subject. It is supposed that the sympathetic system has its origin in its expression, in this solar plexus, which is situated in this abdominal tract. The disturbance, hypnotically produced in this area, may actually result in intense nausea in some cases, and the writer has known of actual vomiting caused by a too strong initial use of this form of relaxant hypnotic treatment. In some cases, a strong wave pressure of energy is sent to the head, producing a sense of discomfort therein, when the subject will beg of the operator to stop this disturbing and disagreeable sensation. From this request on the part of the subject, it will be readily seen, that the subject is always conscious of his or her surroundings, can put questions or answer them, or can analyze his or her subjective sensations, which the writer must again admonish, are not at all imaginary.

Success in the use of the ordinary form of cerebral or dominant hypnotism, presupposes an entire effacement of the special senses of the subject *ab initio*, ere the weapon of suggestion may be driven into the subconsciousness of the patient. With the employment of the relaxant form, however, this is not true, until the full force of the operator is exerted upon the subject, when the latter may become unconscious of his or her surroundings, objectively. It is indeed not always necessary to secure somnolence, in order to attain curative tendencies. In the use of both forms of hypnotic effort, various phenomena of sympathetic irritation are noticeable, objectively by the operator, if a physician, in the shape of deeper respiration quickened cardiac impulse, facial pallor or flushing, coolness of the nose and extremities, all of these objective symptoms being due, it is to be

supposed, to a preponderance in functional disturbance of some viscus within the abdominal or pulmonary tract and produced by two factors; the subtending of the special senses of the subject with a temporary annulment of his will and reasoning power, in itself the result of cumulative dominating cerebral suggestions, as employed in ordinary hypnosis (for unquestionably the will and the reason of the conscious mind, does in a measure control the activity of the sympathetic) while in the use of the relaxant form such phenomena are due to a direct onslaught upon the sympathetic, by the force exerted by the operator upon the subject and which does not deal with pure cerebration.

It may be questioned by those familiar with the use of the ordinary or cerebral form of hypnotic effort, whether these phenomena just alluded to, are not always and usually concomitant with the dominant form of hypnotism. This question, the writer believes, can only be correctly answered by the operator himself, for unless the latter be familiar with both forms of hypnotism, the question cannot be settled. The essayist, however, is compelled to observe that the two forms are unconsciously employed together, by almost every operator on almost every subject. This must necessarily be true, for the distinction between the two forms is not usually entertained or drawn. For this reason very often mistakes in conclusion are and may be drawn by the operator in hypnotic treatment. It is very commonly observed, for instance, that in the employment of the ordinary form of hypnosis, the subject is annoyed by certain subjective sensations on awakening, as giddiness or dizziness or nausea, which are so pronounced that the operator, before the subject awakens, is obliged to suggest them away, before they entirely disappear. It is supposed that these sensations are sequelæ of the use of the usual form employed. If the operator, however, is careful not to allow himself to become relaxed, while oper-

ating on the patient, no such sensations on being aroused, are perceived by the subject. An expression of pure dominant hypnotism can only be attained through pure oral and verbal suggestion, launched through the cerebration of the operator, directly upon the alert, subjective mind of the subject, while, and here note the distinction, the activity of the relaxant form depends solely upon the perfection in the degree of relaxation, which both subject and operator attain. Both, when in near proximity, must concentrate their attention upon their subjective sensations, with a view of their instant recognition and declaration. Just as soon as these subjective sensations declare themselves alike, and together in both through the medium of telepathy, both are, as some writers correctly phrase it, in a state of "synchronization," which means that both have the same thought and sensation at one and the same time. This synchronization may be and is often noticeable in the practice of the dominant form, when the factor of telepathy is at all prominent. It attains its purest form, however, in the vibratory, or relaxant form of hypnotism. The amount of vibration perceivable is often sufficient to produce peristalsis on the part of the subject, while the movement of the abdominal walls of the subject may be perceived by the operator. There is also felt by the subject on whom this force is exerted, a powerful to and fro wave-like motion from the solar plexus, emanating therefrom and proceeding synchronously to the head and to the feet. The posture of the subject does not matter for the reception of the force. The latter is set in motion whenever the factor of relaxation is perceived by the operator, and is in a measure controlled and guided by the hypnotizer.

It may be asked, "Why take any cognizance of the relaxant form, when its operation is also controlled by cerebration?" "If the law of hypnotic energy is dependable upon cerebral suggestion, why recognize any but the form usually employed?" Be-

cause, cerebral suggestion of dominant hypnotism, does not explain the result obtained through hypnotism employed upon a subject at a distance, wherein the operator and the subject have never met and wherein the subject is ignorant of the fact that the power is being or is to be employed upon his or her personality. The writer flatly denies that the mere concentration of will power, *per se* and alone, is sufficient to hypnotically affect the personality of the subject initially and when the former has never been in physical contact in any degree with the latter.

To be successful in hypnotically influencing initially any subject one has neither seen nor expects to see, there must be present with the operator the utmost bodily relaxation as well as the most intense concentration of will and energy of purpose. To be successful, however, the following precaution must be observed: Bodily relaxation must first be attained, and then be followed by a concentration of effort of direction over the subject. The term "rapport" therefore means a molecular vibratory synchronization between the sympathetic nervous systems of both subject and operator primarily, before the cerebral energy of the operator can affect, in a controlling manner, the subjective mind of the subject.

The writer believes that there is no successful hypnotic effort at a distance possible (the subject never having been previously hypnotized by the operator), without the factor of vibratory or relaxant hypnotism being used. It is impossible to affect a subject at a distance, *ab initio*, by the use of pure and simple cerebral suggestion. In such a case, both forms must be conjoined. Since this fact has not before been sufficiently emphasized, if indeed at all, by any writer, there arises very much doubt in many minds concerning the possibility, without a previous arrangement between subject and operator, of hypnotically affecting the personality of a subject by means of hypnotism as ordinarily pursued or prac-

ticed. While this doubt is well founded in the practice of the dominant form of hypnotism, it is not tenable in the use of the relaxant.

In treating cases at a distance, with the use of this usually unemployed form, it may be or it may not be necessary to use some physical means of communication with the patient. Its success, in the latter case, will largely depend upon the amount of force emanating from the operator. There may be a perfect understanding between the subject and operator, in which the former is of course in an attitude of expectant attention, or as above intimated, the subject may be a recipient of hypnotic attention unknowingly or without any pre-arrangement. In both instances the factor of ridicule must be effaced or not present, or the results will be nil. Ridicule in itself gives rise to opposing auto-suggestions, inimical to successful hetero-suggestions, and is a factor always to be carefully estimated by every hypnotic operator. To be successful, it is often best to guard the patient from any knowledge that hypnotism is being used at all, or impatient ridicule will prevent any hypnotic activity in the case, from being manifest. The writer, knowing that the phenomena pertaining to the exegesis of ordinary hypnosis, is the more widely and knowingly commented upon, does not doubt that his division of the field will inspire an unmerited ridicule, but this alone should not deter all proper investigation. It should not possibly be mentioned, and would not be were it not for the fact that there are many facts in hypnotism, incapable of explanation in his opinion, under any other interpretation. The word hypnotism, of itself, in its baldest sense, affords no distinct or succinct meaning of the various phenomena usually embraced categorically under it, and is disappointing. It should be as it no doubt is, extended within the use of the term psychism, of which domain it is undoubtedly a part. An image in physicism is always

inverted. The same is true in psychism as well. A subjective reading, in a diagnostic sense, of the subjective sensations of the patient, is almost, with very few exceptions, invariably perceived by the operator, in the vibratory or relaxant form of hypnotism, as inverted. That is to say, if the patient complains of a sensation in the right side or half of the body, the operator will and does perceive the same in his left side, and *vice versa*, but in his interpretation of the same to the patient he must be careful to state that the complaint or symptom exists in the right side of the subject, or the patient will with truth deny it. As an explanation thereof, the writer is forced to accept the conclusion that the patient being in a state of positivism as regards his or her suffering, and the operator being in a condition of self-imposed negativism, as regards his reception of the feelings, sufferings and sensations of the subject, the reading of the phenomenon becomes dependent upon the operation of the law of polarity of magnetism, that like repels, unlike attracts. As the negative attracts the intruding positive, so is the hypnotic reader of his subject, through his own negative, subjective mind, by the assistance of his positive mind, an exact and positive delineator of the sufferings of the patient or subject.

The writer has made many curious observations concerning the behavior of both sexes used as hypnotic subjects therein, when they have been subjected to the influence of the northern and eastern magnetic meridia of the earth, and finds that the two sexes experience subjective phenomena widely different, the sensations of the masculine sex, being opposed in character, to those of the feminine. That the behavior of the magnetic meridia of the earth upon mankind, when subjected to the relaxant form of hypnotism, is a factor thereof, he is not yet disposed to deny. Further and more extended observations upon this point are necessary to possibly formulate a general law bearing thereon. To recapitu-

late: Two forms of hypnotism are existent, the dominant and the relaxant. The former is cerebral in character, the latter is sympathetic and vibratory in character. As the forces are displayed in physicism are vibratory in effect and in causation, as heat, light, electricity, magnetism, and probably are but varying modes of motion, so must the conclusion be accepted that the forces of human vitality embracing all of the phenomena of vital force, which are incapable of operation without the embodiment therein of heat, light, electricity and magnetism, are also vibratory in character. So, indeed, must it be, with the various operations of psychism, vibratory in character.

REPORT ON HYDROPHOBIA.

BY CHARLES WINSLOW DULLES, M. D., OF
PHILADELPHIA.

It is gratifying to report to this Society that the number of cases of so-called hydrophobia occurring in the United States since our last meeting seems to have been extraordinarily small. I have collected only six cases during the year from May 1, 1897, to May 1, 1898.

Several of these have been so near that I have been able to get details of them of the greatest interest; for example, the first was a case of a kind so rarely recognized that I have but three of them in my notes, covering thousands of cases all over the world, namely, a case of cysticercus cellulosæ of the brain. This is likely to be reported at length by one of the physicians to the coroner of Philadelphia. The second victim was a sixteen year old boy of Scranton, Pa., who died July 23, 1897, and whose symptoms included at the outset frothing at the mouth and attempts to bite his physician and all who came near him—as described in a letter from his physician to me—and whose treatment included hypodermic injections of morphine and atropine, and, by the rectum, bromide of potash and chloral “strong enough and often enough

to control him." The third death occurred September 1, 1897, in the German Hospital, Philadelphia. The patient was a colored dog-catcher, whose disease began with loss of consciousness, followed by convulsions; and a coroner's investigation showed his death to have been due to uremia. The fourth case was that of a man who died October 9, in the Pennsylvania Hospital, Philadelphia. I was notified of this case only in time to reach the hospital after his death. The patient was a miserable drunkard (as I was informed), whose kidneys were contracted and cystic, and whose liver was in fibroid degeneration. So far as dog-bites were concerned, no scar could be found on the most careful searching, and the man said he had never been bitten. After his death the resident physician received notes stating that the man had been twice bitten six or seven years before! The history of the case impressed me with the idea that the man had mania-a-potu. The coroner's investigation attributed his death to uremia, which I presume was a simple result of his drinking habits. His treatment was with whisky, strychnine hyosine hydrobromate and morphine. The fifth death occurred in the Presbyterian Hospital, in Philadelphia, only twenty-two days later—October 31. The patient was sixteen years old. I was asked to see him when he was at the point of death. His symptoms indicated a strong mental obsession, with unmistakable fear of death from hydrophobia; and his treatment included the pernicious use of narcotics. This case was also investigated by the coroner, and the death was found to be due to congestion of the brain. In three of the four Philadelphia cases just recited inoculation experiments were conducted by the city officials, and all had negative results. In connection with this fact, I would mention that one of the physicians to the coroner of Philadelphia informed me that the present coroner had stated that he had investigated seventeen cases of so-called hydrophobia and had not found one case of real hydrophobia among them all.

The sixth death occurred in Minneapolis, December 14, 1897. The patient was a woman, about 30 years old, who was bitten, September 27, in the left cheek, by some animal that she was driving out of a poultry house. The marks were too small to be made by a dog's teeth. Before the outbreak the subject of hydrophobia was so thoroughly discussed that the woman gave up the idea of going to a Pasteur Institute only for the want of funds with which to meet the charges of one of these beneficent establishments. The account of the case that I have states that the woman was "fully conscious of her condition."

As in previous years, I have no doubt that some cases recorded in newspapers, and even in medical journals, have escaped my notice; but, having used the same methods of gathering information that I have used for years, I think it a matter for sincere rejoicing that I have only six cases to report to you for a whole year, among our seventy million inhabitants. I have also the pleasure of reporting that I believe the business of Pasteur Institutes in this country—now three in number—has fallen off considerably during the past year, indicating that dogs believed to be rabid have been fewer or less addicted to biting, or that the common people—as Abraham Lincoln called them—have been sensibly influenced by the efforts made to lessen the popular and professional fear of hydrophobia by a number of persons specially and deeply interested in the welfare of their fellows—notably Mr. John P. Haines, President of the American Society for the Prevention of Cruelty to Animals, Dr. Matthew Woods, President of the Anti-vivisection Society of Philadelphia, and some other medical men.

During the past year an investigation of the subject of rabies has been carried on in a most imperfect manner by the American Kennel Club, of New York. I was invited, and consented, to be a member of the Commission selected to conduct the

investigation; but later I declined to have my name used in connection with its report, because I thought the methods adopted by the veterinarian in charge and in the confidence, apparently, of the Kennel Club were not likely to lead to accurate or valuable scientific results.

In addition to this report, I wish to once more call the attention of the medical profession to the fact that the newly invented crucial test in regard to rabies and hydrophobia, namely, inoculation in series, with fairly similar results and in fairly similar periods of time (this moderate way of putting the claims of the Pasteur disciples is mine, not theirs; they usually are much more positive) is not founded on sound reasoning or backed by reliable observations. When I meet a follower of Pasteur who has the slightest acquaintance with what has been done outside of the so-called Pasteur Institutes, who knows what has been scientifically studied by the Academie de Medicine in Paris, or by our own Bureau of Animal Industry in the United States, I shall be pleased to engage with him in a discussion in which both shall put in writing what they have to say, and print it afterwards as it was said. Another thing I want to say is that the arrogant assumption of Pasteur and his followers that they have superior knowledge in regard to rabies in animals and in man, is wholly erroneous. I have gone carefully over some of the most positive statements of these propagandists, and have found them absolutely incorrect. As an instance, I will cite the common statement that bites near the head or on the face are more dangerous, and followed more speedily by hydrophobia. It simply is not true! And yet men in this country who should know better, repeat these statements. Another error of the Pasteur cult is the belief that the method of Pasteur is of value as a preventive of so-called hydrophobia. I have repeatedly, and without once a contradiction *founded on facts*, stated that there has nowhere been

a diminution in the number of deaths from so-called hydrophobia because of the establishment of Pasteur Institutes.

In contrast to the experience of France, and what are sometimes called Latin countries in general, Germany and England, without Pasteur Institutes have seen, in the case of the former, very few cases of so-called hydrophobia, and in the case of the latter only an occasional seeming increase, probably dependent upon the enthusiasm with which certain prominent medical men in England embraced the claims of Pasteur and the too frequent discussion of its various proclamations in the public press. Our own country has been saved from trouble by the good sense of the medical profession and of the people, and the limitations set upon the exploiters of Pasteur Institutes in the United States. In the twelve years, during which I have been engaged in collecting the statistics of hydrophobia cases in the United States, I have secured some information in regard to the following deaths:

1886	9
1887	14
1888.....	14
1889	10
1890.....	22
1891	15
1892	17
1893	4
1894.....	11
1895.....	19
1896	19
1897	11

This makes a total of 165 cases in 12 years, or an average of a small fraction less than fourteen cases annually—small number for so large a population, and still only about one case to four million inhabitants. The largest number is 22 in one year, and the smallest 4. Having no government aid in the work of collecting these statistics I cannot assume that they represent accurately the fatality of so-called hydrophobia, but from my studies of many other statistics, in which I have found many discrepancies and even conflicting statements, I think they represent it as well as those of any country

except the German Empire; and as they have all been collected in the same way they may well be taken as representing the relative fatality from year to year.

I would again call attention to a fact referred to in my last report to the Medical Society of the State of Pennsylvania, that a record that I have kept of persons actually bitten by dogs believed to be rabid now shows only 8 deaths among 267 persons so bitten in the United States. I do not know of anything that more than this exposes the fallacy and audacity of the claims of Pasteur and his followers as to the dangers of dog-bites and the extraordinary "cures" that his method has effected.

Finally, one word about the treatment of cases of seeming hydrophobia. I beg my fellows to abandon the use of narcotics altogether. They do no good, and I think they are responsible for many of the deaths. And, do not feel that food of any kind is needed. No patient with hydrophobia will starve to death, and usually no food can be absorbed; so that feeding with the stomach tube or by so-called nutritious enemata is the height of folly and often the height of cruelty. It is good to let some patients absolutely alone and not worry them with food or medicine. This is especially true when there is so little known as there is about the treatment of hydrophobia. At present it is safe to say that insisting upon the taking of food or drink, the use of medicines at short intervals—especially of morphine, atropine, chloral and bromides—and the conversion of a sick room into a clinic for medical men or medical students, ought to be regarded as evidence of almost criminal ignorance. If such ignorance had never been shown up in its true character, it would not be criminal; but it has been so exposed, and it is time it was recognized, and that no medical man should flounder round as his predecessors have done, with measures and drugs that are useless or hurtful.

DISCUSSION.

Dr. T. C. Detwiler, Lancaster: Mr. President, about four weeks ago a patient of mine was bitten by a dog which had been sick for about a week; the dog was killed for biting this patient. Within fifteen minutes after being bitten on the forehead, I cauterized the wound with carbolic acid. Within an hour we had a post-mortem on the dog, and found the cord and medulla congested and the stomach full of chips and grass. The cord and brain were sent to the laboratory at Philadelphia, and examined, with the result as outlined in this letter:

University of Pennsylvania, Laboratory of Hygiene.

Philadelphia, May 16, 1898.

Dr. T. C. Detwiler, Lancaster, Pa.

My Dear Dr. Detwiler: The cord and brain of the dog, which you sent here for examination on April 26, have been examined by us, by making inoculations under the dura mater in rabbits from both brain and cord.

Fifteen days after inoculation the first rabbit showed symptoms of infection. The second and third became affected the third day following, and the last one showed symptoms for the first time four days later. The rabbit which was first inoculated died on the eighteenth day, one on the nineteenth, one on the twentieth and one on the twenty-first day after inoculation.

Autopsies made on these animals, soon after death, showed the external wound to have made considerable progress toward healing, so much so that the trephine made in the skull had become closed with pretty firm fibrous tissue. There were no signs of inflammation surrounding the inoculation wound in any of the rabbits. On removing the skull, the membranes were found to be very much congested. In one of the rabbits a small clot of blood was found lodged under the posterior lobe resting upon the cerebellum. Aside from this nothing abnormal was noticed in the brain or cord. The internal organs of these animals were healthy, except that they showed some hepatization of the upper lobe of the lung. Culture and cover slip preparations were made from the brains of these animals, and in each instance the cultures remained sterile, no micro-organisms being found in the brain tissue. In several instances, especially those having hepatization of the lung, micro-organisms were found invading the lung tissue. From our result, it is apparent that this is due to some secondary invasion.

The symptoms which these animals had manifested were such as are usually seen in experimental rabies, that is, twitchings, tremors and

paralysis followed by death. The microscopical and bacteriological examinations of the animals are also in accord with this clinical picture; so that there is every evidence to believe that these four animals died from *rabies infection*, originating from the dog's brain and cord, which you sent us for examination.

Yours very truly,
A. C. Abbott.

Dr. B. H. Detwiler, Williamsport: About two years ago I saw a patient that was bitten severely by a large dog. The dog rushed into a house, and the mother jumped to save her child. A policeman came in and killed the dog. The mother was nearly insane from the fact that her neighbors all said she would die. This woman was a patient of Dr. Charles Schneider, Williamsport. We made a post-mortem on the dog. Opened his stomach and found it filled with normal food. After a thorough examination we assured the mother that there was no rabies there, that the dog was simply insane. The woman lost all fear and is perfectly well to-day—no evidence of insanity. If we had not positively assured the woman that there was no rabies, I believe she would have died. So far as the question is concerned, as to whether or not there is such a thing as rabies, I think one point which should receive some consideration is the fact that children too young to appreciate a dread of the disease have it.

Dr. D. H. Bergey, Philadelphia: In reference to Dr. Dulles' report there is, no doubt, evidence that possibly most of his cases, perhaps all which he reported this year, were cases of some other kind of infection, some other form of brain disease. So far as the inoculation experiments are concerned, in the case of Dr. Detwiler, the brain and cord were at once removed and the laboratory procedures at once commenced under aseptic precautions. All of the animals developed the typical symptoms within the prescribed period of incubation. They had no lesion of the brain and cord, except hyperemia. There was a slight secondary disease of the upper lobes of the lung, quite natural to occur in diseases of this kind. From the clinical symptoms, from the bacteriological and pathological examinations of the animals, we reached the conclusion that it was a case of hydrophobia. We took the precaution of inoculating a fresh animal from each one of the animals that died, and will report to Dr. Detwiler subsequently. From a study of the literature of this subject, and from personal experience, I think the evidence is reasonably conclusive that there is such a disease as hydrophobia, although there is no doubt but that there have been cases of pseudo-hydrophobia, possibly resulting

from fear or dread of the disease, and sometimes due to other infections.

Dr. M. J. Williams, Scranton: I heartily appreciate Dr. Dulles' efforts to disabuse our mind of hydrophobia, and wish he could be successful, but I fear not. I had the privilege of seeing one of the cases which he reports, being invited by the attending physician. I saw the Scranton boy about an hour and a half before he died. It was the first and only case I ever saw that I consider hydrophobia. I believe it would be diagnosed such by a majority of the profession. This boy was bitten by a dog, which also bit a number of other children on their way home from school. In the course of ten days or two weeks this boy was taken violently sick, but the doctor did not know what the trouble was. On his second visit his suspicions were aroused, the symptoms became more manifest and he diagnosed hydrophobia. The boy lived about two days after. He died about two hours after I called to see him on invitation of his physician. A second child, bitten by the same dog, was taken to the Pasteur Institute, New York City, but is now back in Scranton perfectly well. The parents of half a dozen other children, which were bitten by the dog, would send their children away if they could raise the necessary money. I believe the case of the boy who died was a bona fide case of hydrophobia.

Dr. Charles W. Dulles, Philadelphia: There is nothing that I can add that would be likely to change the opinion of some of those who have spoken; but I would like to refer those who hesitate to accept the opinions I have acquired by long observation and study, to a carefully prepared and critical analysis of the methods and conclusions of Pasteur in regard to rabies and hydrophobia, that I read before the Philadelphia County Medical Society in 1886, and that I published in the *New York Medical Record*, February 13, 1886. In this paper I called attention to one of the remarkable performances of Pasteur, in claiming that he had perfected a sure method of preventing rabies in dogs, and soon abandoning it altogether for the attempt to prevent the appearance of hydrophobia in human beings bitten by rabid animals. If his first claim was just—and he had it apparently abundantly confirmed by a French commission—to drop it was an indescribable act of cruelty. But this seems to have made no impression upon those who have been blinded by this magnificent master of pyrotechnics. I have found a singular lack of critical acumen, and at times a lack of candor, in men occupying very prominent positions in their dis-

cussion of this subject, that makes me sometimes doubt that the rank and file of the profession will soon escape the delusion that their eminent leaders have fallen into. But none the less shall I continue to protest against what I believe is an error fraught with the most serious consequences to mankind. Others before me have worked against odds as great; and the truth has a way of prevailing, even though its defenders are few and scorned by their opponents. Any honest worker, when oppressed with the difficulty of making clear to others what he thinks he sees clearly, may adopt the language of the persecuted Galileo, and say, "*E pur si muove.*"

THE SIMPLE EXTRACTION OF CATARACT.

Read by title before the Medical Society of the State of Pennsylvania, May, 1898.

By EDWARD JACKSON, A. M., M. D., OF DENVER, COLORADO.

Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic.

Cataract extraction without iridectomy has come to be called simple extraction. A generation ago the force of Graefe's teaching and example led to the almost universal adoption of what he termed the modified linear extraction; but, within the last ten years, through the advocacy of Knapp, of New York, many operators have come to do cataract extraction without iridectomy. Whether this is a good operation for all cases is a question that its advocates have not raised. All recognize that in some cases it is necessary, or better, to do extraction with iridectomy. The questions that are to be profitably discussed are: whether for the proper cases simple extraction is best, and what are the proper cases for it.

In general, the operation which accomplishes its purposes with the least danger and the least permanent injury is the operation to be preferred. Simple extraction does accomplish its purpose. It removes the opaque crystalline lens, and removes it effectually. It does this in favorable cases with the least permanent alteration to the

eye, and it gives the best visual results. Comparison of extended series of cases of extraction by the two methods show a slight superiority of average acuteness of vision by simple extraction. But this is only a small part of the practical advantage gained by avoiding a mutilation of the iris.

In measuring refraction under mydriatics, we generally get full acuteness of vision with the correcting lenses, and yet, any one who has attempted to see with his pupils widely dilated, even through his correcting lenses, knows that the vision obtained is far less agreeable and satisfactory than that to which he is accustomed with the normal pupil. It is possible to see letters on the test card in spite of the glare of unfocused light which also, on account of the irregular astigmatism present in all eyes, reaches the retina. And so, a cataract patient with a large coloboma of the iris may be able to give with the test letters as good a record of acuteness of vision, and yet for comfort and satisfaction, be not nearly so well off as another, having the same vision as measured on the test-card, but through a small pupil.

Again, the patient with a large pupil, or large coloboma added to the pupil, is far more dependent upon his correcting lenses than one who has had his cataract removed by simple extraction. I have had patients who had almost perfect vision through their correcting lenses, yet who preferred at times to go without glasses, and were able thus to travel unattended and recognize places and persons. These patients had, after simple extraction, quite small pupils; and although with the correcting lenses their vision was much better, it was so good without glasses that they were glad at times to escape entirely from the annoyance of heavy glasses, and strong cylindrical lenses that produced a very unpleasant distortion of objects looked at. Such a result is exceptional, but in a large proportion of cases of simple extraction the superiority of the vision without glasses is very marked as

compared with what is obtainable by extraction with iridectomy.

This practical superiority of vision is to my mind the strongest reason for doing simple extraction. The cosmetic advantage, which is often referred to as though it were the only advantage of simple extraction, is of very minor importance. An upward iridectomy is scarcely noticeable with the ordinary illumination of the eyes and the lids in the usual position. It might be thought that if the lids conceal the coloboma they would also prevent diffusion of the light entering it; but at the lid margin there is always an accumulation of mucus and tears that causes marked diffusion of light within the eye, and from this diffusion the eye with an upward coloboma of the iris cannot escape.

The following table gives the sex, age, correcting lenses and vision obtained in one hundred cases of simple extraction. These were consecutive as simple extractions, but during the same period a smaller number were operated on by extraction with iridectomy.

Sex.	Age.	Lenses.		Vision.
F.	78	9.=+2.50	cy. ax. 150°	5/7
		9.=+1.50	cy. ax. 165°	5/7
F.	54	10.=+1.	cy. ax. 30°	5/20
M.	58	12.=+2.	cy. ax. 160°	5/5
M.	63	10.=+3.50	cy. ax. 15°	5/8
M.	66	11.=sph.		5/15
F.	60	13.=+3.50	cy. ax. 10°	5/25
M.	62	9.=+4.	cy. ax. 155°	5/10
M.	50	10.=+2.	cy. ax. 15°	5/5
		10.		5/10
F.	26	6.=+8.	cy. ax. 165°	5/25
M.	52	4.=+5.	cy. ax. 120°	5/10
F.	60	9.=+3.	cy. ax. 5°	5/7 partly
M.	71	10.=+5.	cy. ax. 180°	5/15
M.	52	12.=+7.5	cy. ax. 145°	5/10
M.	19	7.=+1.	cy. ax. 90°	5/15
M.	33	10.	Vitreous opacities	5/60
M.	60	10.=+3.50	cy. ax. 180°	5/10
		11.=+3.50	cy. ax. 180°	5/15
M.	55	10.=+1.25	cy. ax. 15°	5/10
M.	60	9.=+3.50	cy. ax. 165°	5/10
M.	51	8.=+2.50	cy. ax. 170°	5/10
		8.=+3.50	cy. ax. 170°	5/15
F.	60	10.=+4.50	cy. ax. 178°	5/20
F.	64	10.=+5.	cy. ax. 173°	5/10
M.	27	8.	moving objects	
M.	68	8.50=+3.	cy. ax. 30°	5/10
M.	65	10.=+4.50	cy. ax. 178°	5/20
F.	42	10.=+5.	cy. ax. 180°	5/5
F.	64	8.=+0.75	cy. ax. 180°	5/8
F.	33	10.=+4.	cy. ax.	5/10
M.	15	10.=+3.	cy. ax. 15°	5/15

M.	18	8.		5/15
M.	60	10.=+2.25	cy. ax. 5°	5/8
		9.=+1.25	cy. ax. 5°	5/10
M.	65	12.=+2.50	cy. ax. 10°	5/20
M.	48	11.=+2.	cy. ax. 150°	5/7
M.	51	6.=+8.	cy. ax. 180°	5/15
M.	39	11.=+5.	cy. ax. 165°	5/25
M.	66	9.=+2.50	cy. ax. 140°	5/7
M.	75		useful vision	
M.	69	9.=+1.	cy. ax. 145°	5/7
M.	55	10.=+1.	cy. ax. 160°	5/30
M.	66	11.		5/12
F.	61	8.=+6.	cy. ax. 160°	5/10
F.	67	9.=+5.	cy. ax. 155°	5/25
F.	63	9.=+5.	cy. ax. 30°	15/30
M.	76	11.5=+3.	cy. ax. 45°	5/8
M.	71	11.=+2.50	cy. ax. 30°	5/15
M.	72	6.=+8.	cy. ax. 170°	5/30
M.	18	11.		5/7
F.	63	11.=+2.50	cy. ax. 25°	5/10
M.	63	10.=+2.	cy. ax. 30°	20/50
F.	46	11.=+2.	cy. ax. 5°	5/4
M.	73	9.50=+3.	cy. ax. 180°	5/6
M.	48	9.=+5.	cy. ax. 25°	5/12
M.	57	9.=+5.	cy. ax. 15°	5/15
F.	51	8.5=+4.5	cy. ax. 175°	20/30
M.	60	12.=+1.25	cy. ax. 45°	5/15
		12.=+1.75	cy. ax. 160°	5/15
M.	60	9.=+1.75	cy. ax. 160°	5/15
M.	60	9.=+1.50	cy. ax. 10°	5/25
F.	27	8.50 1.50	cy. ax. 15°	5/7
		8.50 2.25	cy. ax. 170°	5/7
F.	70	9.	5. cy. ax. 150°	5/20
M.	61		useful vision	
M.	43	10.50 5.	cy. ax. 155°	5/5
M.	54	13.	1.50 cy. ax. 35°	5/10
F.	79	10.5 sph.		5/12 partly
F.	30	10.	1. cy. ax. 5°	5/5
		10.	3. cy. ax. 180°	5/5
M.	61		moving objects.	
M.	53	8.	5. cy. ax. 40°	5/12
		9.	4. cy. ax. 165°	5/20
M.	53	8.	5. cy. ax. 40°	5/12
		9.	4. cy. ax. 170°	5/10
M.	62	7.	2.50 cy. ax. 140°	5/12
		7.	1. cy. ax. 14°	5/30
F.	62	9.	1.25 cy. ax. 150°	5/15
		5.	10. cy. ax. 10°	5/20
F.	70	10.	3. cy. ax.	5/10
F.	60	6.	10. cy. ax.	5/20
M.	36	11.5	2.75 cy. ax. 100°	5/6
M.	51	10.	3. cy. ax. 180°	5/10
F.	56	7.	5. cy. ax. 20°	5/40
M.	58	11.	2. cy. ax. 25°	5/10
F.	78	9.	2. cy. ax. 150°	5/12
		10.	1.50 cy. ax. 105°	5/20
M.	60		(Irido-cyclitis) light perception.	
M.	63	8.	4. cy. ax. 158°	5/6
M.	57	11.5	3.5 cy. ax. 160°	5/10
M.	68	10.	4. cy. ax. 5°	5/30
M.	53	12.	1.50 cy. ax. 180°	4/6
M.	71	11.	3. cy. ax. 13°	4/6 partly
F.	76	12.	3. cy. ax. 10°	4/6 partly
M.	38	9.	1.5 cy. ax. 170°	4/9
F.	75	8.50	2.50 cy. ax. 25°	4/4
F.	58	8.5	5.50 cy. ax. 25°	4/20
M.	66	10.50	3. cy. ax. 5°	12/40

Of the above over seventy per cent. underwent a secondary operation for division of the capsule. Most of the patients were

operated on in the Wills' Eye Hospital, and in the Philadelphia Polyclinic Hospital. All but three of the eyes requiring cylindrical lenses of 5D. or over, and many with lower astigmatism, were last tested before the eye had completed the optical changes following extraction, and often before it had attained its best possible vision.

It will be noticed that in 9 per cent. of the cases the vision was 5-5 or better, and in 51 per cent. it was 5-10 or better. In the two cases noticed as having useful vision, the patients got away from the hospital without having the acuteness of vision recorded; but with every reason to suppose that the vision would be fully up to the average. In only 5 cases then was the vision less than 5-30, and in but three could the operation be counted a failure. In one of these cases the result depended on previous disease and was indicated as probable by the history of the patient, it was due to optic atrophy. In another useful vision was obtained, but some months later chronic irido-cyclitis occurred with opacity of the vitreous. In the third case vision of 5-35 was obtained after the extraction, but was subsequently lost through glaucoma. Iridectomy was done and the glaucoma relieved, but when the patient was last seen, shortly after the iridectomy, it seemed improbable that there would be useful vision.

This showing for simple extraction is probably somewhat better than it could be for extraction with iridectomy, because certain conditions that forbid simple extraction are likely to be accompanied by lesions impairing vision; but none were excluded because of doubt as to the visual result. During this same period I have, however, extracted two opaque lenses merely to improve the appearance of the eye, both cases rank as complete operative success, but as had been stated to the patients before operation, there was no possibility of vision in either case.

Before leaving this subject it is but fair to say that the full advantages of the sim-

ple operation are not obtained in all cases. In nine of the above there occurred prolapses of the iris and the ultimate optical effect was very much like that obtained after iridectomy. In the most extensive prolapse the vision was 5-6; in the second in extent it was 5-8 partly, but both of these patients suffer appreciably from the annoying diffusion of a large pupil. Farther than that, incarceration of the iris in the wound, or adhesion to the scar, or posterior synechia attaching it to the capsule, occur in a much larger proportion of cases. In less than half of the cases of simple extraction is the pupil left circular, free and entirely normal.

Risks of the Operation. The special risk of simple extraction is prolapse of the iris. The number of these cases was nine, as mentioned. In eight of them the prolapse was not touched, the cicatrix flattened down and became perfectly firm and the eye quiet. In one there remained at the end of several months a small cystoid scar, which was excised; and the cicatrix then became firm and the eye quiet. The objection to the expectant method of treatment and the nature of the harm resulting from prolapse, is that when prolapse occurs the length of the period of healing is nearly or quite double the usual average. There is, however, excellent authority for the immediate excision of the prolapse when first noticed, although excision after the first one or two days is probably attended with some risk. After early excision healing goes on as after extraction with iridectomy.

Dangerous infection of the eye after cataract operation now rarely occurs. It was entirely absent from the series here referred to, and a priori, there is reason to think that simple extraction offers less danger of this sort than extraction with iridectomy. Glaucoma occurs in about 1 per cent. of cataract extractions. Whether it occurs more frequently after simple extraction than after extraction with iridectomy is very doubtful. The recorded cases are not yet sufficiently numerous to decide the ques-

tion. In my own experience it is less common after simple extraction than after the combined operation. I have seen but this one case after simple extraction, and two cases after extraction with iridectomy.

What Cases Are Suitable for Simple Extraction? In general, it may be said, all cases in which the condition of the iris itself does not constitute an especial obstacle or complication of the operation; and those cases in which the patient by pressure of the lids upon the globe is especially likely to cause prolapse. Where there are synechiæ either anterior or posterior, where the rigidity of the pupil offers a serious obstacle to the escape of the lens, or where after the removal of the lens, the lack of proper contractility in the iris leaves it prolapsed with little tendency to remain in position when replaced; are cases in which the iris is an obstacle to successful extraction, or smooth healing, and for this reason a portion of it is to be removed.

Again, if the patient has the bad habit of squeezing the lids tightly on the eyes, and shows himself unable to properly control the lids, the risk of prolapse is increased. In this way prominence of the eyeball and strong, thick lids, conditions that are both found in the colored race, are contra-indications. Still I have several times done simple extraction on colored people without prolapse. In one of the above cases the eye was so prominent that I easily made the corneal incision on the left eye with the right hand, across the bridge of the nose. Healing was normal and 5-4 vision secured.

Finally, if the iris be accidentally wounded in making the corneal incision, it will usually be best to make a regular iridectomy. In the period covered by the above series two cases went over into the class of extraction with iridectomy on account of this accident.

Notwithstanding the limitations of its application and the special risk of prolapse of the iris the superior results to be obtained by simple extraction make it the best operation for the majority of cases of cataract.

CORNEAL ULCERS, VARIETIES AND TREATMENT, WITH SPECIAL REFERENCE TO SUBJUNCTIVAL INJECTIONS.

BY JOSEPH E. WILLETTS, M.D., OF PITTSBURG.

The subject of corneal ulcers is such a common one that it scarcely seems worthy of the consideration of this Society, yet there are many interesting details in the differentiation of not only the varieties, but also the treatment, which are extremely important, when we recognize the irreparable damage they are capable of rendering to the organs of vision. The distinctive differences in the character and appearances of corneal ulcers is pronounced. However, it is not the intention to enter into the characteristic details of the various forms, since it is the design of the writer to deal more especially with the present method of treatment by subconjunctival injection, and, for the sake of brevity and convenience, other forms of keratitis, such as phlyctenular, punctate, onyx, etc., will be spoken of as in the same category.

All forms of corneal ulceration are dependent, more or less, on infection. Evidence has been collected which shows that the pneumococcus of Friedländer is capable of producing grave ulcerative conditions of the eye, and that the pneumococcus of Fränkell has been observed as the pathogenic micro-organism in cases of tenonitis, panophthalmitis, hypopyon, keratitis, conjunctivitis, and probably in some forms of dacryocystitis. Nuel says that keratitis punctata, and analogous forms, are diseases of special microbes that are absolutely typical.

In the treatment of corneal ulcers, atropine is looked upon as almost a specific, when in reality it is only a preliminary step. It has no germicidal action, and has no bearing on the cure of the disease, except that of preparing the parts for reparative action. It paralyzes the accommodation, thus doing for the eye what a splint does for

a fractured extremity, puts the part in absolute rest, which is a recognized factor in the successful treatment of all disease. It relieves the local congestion, which, however, is a symptom only, and seems to me to have a special action on some varieties that is not applied to others. In phlyctenular keratitis, which is not dependent on micro-organisms, while atropine is not contra-indicated, it certainly is not indicated and the patient may be spared the annoyance dependent on its use.

This disease, principally one of childhood, is characterized by elevations of the corneal epithelium, at the limbus, dependent on the congregation of leucocytes at the peripheral nerve-endings. It is readily cured by the yellow oxide of mercury of suitable strength, together with supportive treatment, in those cases of scrofulous diathesis, or cachexia, from unhygienic surroundings. Analogous to this form is keratitis fascicularis, which, like the former, commences at the margin of the cornea, but this, unlike the former, invades the cornea, generally in a parallel line, dragging after it a leash of blood-vessels, the arrangement of which is pathognomonic of this affection. It yields readily to the same treatment. The serpiginous ulcers, with hypopyon and other forms of corneal infection, such as onyx, require a more radical and prolonged treatment, the benefits of the actual cautery in these infections being infinitely superior to any other method. I have never seen a single bad effect from its use, and have used it when the condition of the conjunctival sac would seem to contra-indicate it. It is decidedly preferable to the Sæmisch operation, which only relieves the tension at the expense of a new traumatism, the evacuation of the hypopyon being not essential, since its absorption is assured under proper treatment. The cautery at a red heat should be applied to the underlying edges of the ulcer, and, in case of onyx, penetrate it deeply, experience having taught me that the floor of the ulcer will undergo resolu-

tion with a thorough cleansing, or slight curettement. The cautery is a direct, immediate stimulant, and destroys the microbic area with which it comes in contact, instead of creating a new condition favorable for infection, as the Sæmisch operation does. All of these cases need atropine, hot water, and the systemic influence of mercury. The latter may be accomplished in any way consistent with scientific medicine. Lagrange and Formaget (1) have employed mercuric cyanide by subconjunctival injection in the treatment of panophthalmitis. Chavellereau (2) in the treatment of vitreous opacities, and Dunn (3) in hypopyon keratitis. E. H. Bernst (4) recommends mercuric cyanide rather than bichloride, claiming for it a quicker and more complete absorption. He is in favor of the method. DeSchweinitz, Baker, and Roy (5) concur in his opinion, while Stirling, Reynolds, and Savage (6) have had unfavorable experiences with this method. Fernandez (7) reports encouraging results in the treatment of trachoma, by the subconjunctival injection of the permanganate of potassium; an injection of 1 per cent. solution of cocaine is first given, followed in about twenty minutes by an injection of from one-half to one gramme of a one to one-thousand strength solution of permanganate of potassium. The eyes are washed daily with an antiseptic solution, and in about eight days (or after the swelling has subsided) the injection is repeated. Melinger and Bossaline (8) introduced India ink beneath the conjunctiva of rabbits, and demonstrated beyond cavil that fluids so introduced follow the greater lymph channels and surround the entire globe. The amount of ink actually entering the eyeball being small in comparison to the amount injected. They believe that the fluids also connect with the supra-choroidal and inter-vaginal spaces of the optic nerve. Abadie (9) repeats his injunctions against bichloride solutions, especially when iodoform is used contemporaneously in purulent ophthalmia, on account of its evil effects on the cornea. Gallezowski (10) has abandoned the method, and Ray feels that he cannot depend on them exclusively.

The progress of medicine is not so much dependent on new discoveries as it is on the careful sifting of the evidence at hand, and the elimination of its errors. Its gain has been one of principle at the expense of

superstition, and to-day it is an exact science. The theory of subconjunctival injections must be an error, since it is incompatible with the first teachings of not only hypodermatic medication, but all medicine. Mellinger and Bossalino's illustrated experiments, showing a section of an enucleated eye, in which India ink had been injected during life, and which shows the ink in the eye and surroundings, is interesting only because it shows the channels traversed, for it has no bearing on the efficacy of the method. That it was found in the eye and optic sheath, should not occasion so much surprise, as its absence in these parts would, since we know that were it not an inert, unsoluble product, it would be found in every organ of the body.

Hypodermatic medication is too well established, too frequently used, and the effect too palpable to doubt its immediate penetration of every organ of the body. It was for this that it was adapted and adopted. Its earliest promoter, Ruppaner (11) makes no claim in his treatise for especial benefit of the tissues at the site of injection. On the contrary, he speaks of the possibility of abscess in that region. We know that there is a disturbance of the relation of the cellular tissues at this point, that the solution injected is an irritant, that the traumatism causes an increased leucocytosis, which are all favorable to the production of abscess, even in healthy tissue. Photophobia, lachrymation, congestion and pain, are the predominant symptoms in corneal ulcer. The congestion is in direct ratio to the virulency of the infection. If this be great, the congestion in all the orbital tissue is great. There are no clinical data, no evidence, no law in medicine, that teaches us to select an already congested area for the introduction of an irritant, thereby accentuating the conditions instead of benefiting them. The conclusions are:

(1) That the rationale of the treatment of corneal ulcers by subconjunctival injections is extremely questionable.

(2) That the results are no better than if the injection be given in another part of the body.

(3) That the eye not injected receives as much medication as the injected one.

(4) That it accentuates already abnormal existing conditions.

(5) That it adds a new traumatism to an old inflammation.

(6) It has a tendency to promote suppuration, to say nothing of the formation of thrombi.

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DISCUSSION.

Dr. Louis J. Lautenbach, Philadelphia.—I think if every case of corneal ulceration had been treated early, and that if absolute cleanliness had been insisted upon from the first, few of these cases would have gone on to ulceration. I think many corneal ulcers could have been prevented if proper cleansing and care had been bestowed on the initial lesion.

The great trouble in medicine today is, that the early stages of disease are apt to be neglected. The little details in the onset are omitted, probably, because we think there is little cause for alarm. We do not insist upon treatment, persistent treatment, from the beginning, but wait until the disease has assumed serious proportions before we rise to the necessities of the case.

In the care of corneal ulcers, I say that cleanliness is of the first importance—antiseptic cleanliness. It matters little what agent is used, whether it be hot water, boric acid, or corrosive sublimate solutions, but it must be thoroughly and constantly applied. I agree with the reader of the paper, that atropine has no antiseptic action, but it has the great advantage of placing the muscles in a state of rest, and thus allows of more rapid healing. I think subconjunctival injections in some few cases should not be neglected, but I rarely find it of much value. In some few cases I used solutions of eserine instead of atropine.

At the Baltimore meeting of the American Medical Association a few years ago, I presented a paper on "Corneal Curvatures," and proved that the cornea was constantly under the influence of the various eye muscles, and that by easing these muscles the cornea could be put at rest.

Dr. Joseph E. Willets, Pittsburg:—The object of the paper is to call attention to the fallacy of the theory of subconjunctival injections in the treatment of corneal affections of the eye. It is unscientific to select a localized hypodermic site for the introduction of a medicament, when the same effects may be obtained from its application in a site remote from the inflamed area, at a much less risk to the patient.

... THE ...

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THE SEAL OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

After incorporation the State Society was entitled to have and to use a "corporate seal."

The matter was brought up several times in the meetings both of the State Society and of the Trustees. At the last meeting of both bodies instructions were given to have one prepared, and a committee was appointed to prepare a design and procure the seal.

Frequently seals are prepared that are loaded with a design too complex for the "busy practitioner" to waste time to discover what was intended. An effort was therefore made to secure a seal that would tell its own story. It appears for the first time on the front cover page of this issue.

The monogram "A. M. A." and the date "1847," surrounded by a circle, represents the American Medical Association and date of its organization, and the fact that it embraces in its circle the whole profession of medical men whose practice is founded upon the teaching of the regular school of medicine, embracing all branches of medical practice.

It may be well to recall the fact that the semi-centennial was celebrated at the meeting in Philadelphia in 1897.

The keystone is surrounded by a "belt," upon which is given the name of our State Society inside the belt, and at the side of the keystone are given the date of organization and date of incorporation.

The keystone with the monogram of the A. M. A. upon its face shows to all that our State Society is in full accord with the American Medical Association, and that the Medical Society of the State of Pennsylvania was organized in 1848 and incorporated in 1890. Our organization in 1848 gave us a professional existence; our incorporation in 1890 gave us a legal existence and added strength and influence to our State Society.

W. T. B.

A PLEA FOR MORE CAREFUL DIAGNOSES.

When one reads the text-books and articles of some of the most successful physicians, he cannot but be impressed with the amount of space devoted to diagnoses, as compared with that devoted to remedial measures. While it is for the latter the physician primarily exists, all but the thoroughly ignorant must see that the only rational therapeutic measures are those based upon scientific diagnosis—empiricism has had its day, while medicine now comes more under the domain of science.

The practice of making "snap" diagnoses cannot be too strongly condemned, for while the evidence of certain diseased conditions may be ever so plain, we should subject our opinions to confirmation, of which, in most diseases commonly met with, there is abundant proof.

Anyone who has engaged in hospital or dispensary practice must have met with applicants for treatment already furnished with a diagnosis by a physician, which, with the first careful examination, has been shown to be erroneous, and which, in charity, (if, indeed, it be worthy of charity), should be attributed to carelessness, rather than to incompetency.

It cannot be denied that in some cases the most acute and subtle mind may be baf-

fled in attempting to come to a satisfactory conclusion. And not infrequently, even in the practice of the "very elect," the proper diagnosis is made at the autopsy table; but in justice to our patients let us give them our very best study and care, and if that does not avail to the satisfaction of our inner consciousness and to the patient's good, by all means, when expedient, employ further time and study and even the help of a colleague. The Golden Rule acts as well in the practice of scientific medicine as in any other walk of life.

Each case, then, should receive careful clinical, and, if need be, laboratory study. We should not despise the latter, neither should we depend upon it alone for a diagnosis, even in such a disease as diphtheria. The laboratory workers are our best friends, but they are only friends, they are not ourselves. The results here obtained are only elements that go to complete the clinical picture, and their proper use is such.

There is an evil, perhaps more common among the younger practitioners, which consists in diagnosing rare diseases and wonderful conditions. While anyone, even in the early days of his practice, may meet with a remarkable case, it is more consistent with wisdom to think of the commoner diseases first.

The advance made in the study of bacteriology, urinary analysis, examination of sputum, blood, gastric contents, etc., has made us more certain of diagnosis in some diseases in the last decade, and their use to-day is of the utmost importance. All chills and fever do not mean malaria, but to confirm a supposition, we rationally look for the plasmodium and then apply our remedy. This is an age when every general practitioner can, if he will, use such confirmatory measures for many diseases, and he should be possessed of and be familiar with a microscope for daily use.

Instruments of precision are numerous, and have been the means of marked advance in scientific medicine. Let us strive to be familiar with their use.

As indicated above, time is also an element. We do not always have to give a diagnosis the first time we see a patient; in fact, in some diseases this is impossible. One should, therefore, not commit himself too readily. A severe bronchitis may be a premonitory symptom of typhoid fever. We are often compelled to treat symptoms only—or use tentative measures—while waiting for further light on the cause of the illness. We should not be ashamed to acknowledge this, if not to the patient, at least to ourselves, for we are all human.

While none are infallible, and mistakes are made even after most careful attention, let us not abuse our powers of differentiating disease by superficial observation. How often do we see a child treated for months for chronic rheumatism, when the first examination of the nude body reveals tubercular disease of the hip; chronic bronchitis in a young adult is often too late found to be pulmonary tuberculosis; patients with pain in the lumbar region are told they have a "little kidney trouble," without a single examination of urine. These are examples of things which ought not to be.

Another thing inconsistent with the dignity of our profession is to profess to abate or prevent certain diseases. A person is "threatened with typhoid fever or pneumonia," and the physician called assures the family he has arrived on the scene just in time to prevent it. Our knowledge of pathology to-day is against anything of this kind. Much of our trouble and many of our failures to benefit our patients may doubtless be referred to careless and incomplete examinations, particularly in irregular courses of disease.

J. I. J.

THE PATENTING OF DIPHTHERIA ANTITOXIN.

The patenting, by Behring, of the process for making diphtheria antitoxin in the United States, has met with a storm of indignant protest in the medical journals. It seems almost beyond belief that anyone, and

especially one holding the position of Behring, should seek to restrict the preparation of a life-saving remedy such as antitoxin is now universally recognized to be. It cannot be on the plea that the Höchst product is superior to that made in America, for if comparisons are to be made the accumulated evidence would seem to indicate the superiority of the American product. There can be but one motive—to make money, no matter how many children may be sacrificed. It is the same principle that underlies the patenting of any remedial substance, except that in the case of antitoxin it is the more reprehensible because it represents the one substance of almost specific value in diphtheria, while the claims of other patented remedies are, as a rule, not based on facts. We sincerely hope that the decision to grant a patent will be reconsidered, and the process left free and untrammelled, and further, that the instance may serve as an example to indicate the need of amending the patent laws governing remedial agents.

If instead of granting patents the Government were to foster and reward the discovery of life-saving agents, even at the risk of paternalism, for all good governments must be more or less paternal, a great stride for the betterment of the condition of the people would be made. In a Republic the individual, above all else, should not be allowed to prey on the majority, more especially in matters concerning the health of all.

K.

THE FAMILY PHYSICIAN AND THE SPECIALIST.

To pose as a modern prophet is easy and the habit of foretelling the future is one to which all are more or less forcibly inclined because of the feelings of superiority and wondrous importance which it engenders in the hearts of those who practice it. During the past decade we have seen, in medical literature, "the passing" of almost all things of importance in medicine, but in spite of the alleged "passing" they are with us still. When a prophecy becomes verified

the prophet is held in great honor, but when it fails to materialize he is careful not to refer to it, and other persons have forgotten all about it. The editor of the *International Medical Magazine* writing in the line of prophecy, sees the "doom of the druggist" in the near future, but condoles with him in depicting the medical profession as likely to meet the same fate. Among other assertions he makes—and this is what we refuse to admit—is one to the effect that "the specialists have knocked out the time-honored family-doctor."

Any physician who recognizes the vastness of the field of medicine also recognizes the need of specialists, the need of men who have devoted their attention to a limited section of the field, and who, besides have acquired manual skill and dexterity (often, by the way, no small part of the specialty) that can be gained only by constant practice.

If we were to allow ourselves to prophecy we would say that the family physician's future rests on sure foundations, for with a better general conception by the laity, of the laws of health and disease, his better understanding will be appreciated and his counsel followed implicitly.

The specialists of to-day exist largely if not entirely, because of the unselfishness of the "family-doctor," whose sphere of activity is a broad one and who sends his cases requiring expert treatment in some special line, to a specialist, at his own pecuniary loss. The well-informed general practitioner appreciates his unfitness to treat certain special diseases, but he also knows that the specialist is even less qualified to attempt a general practice. The greatest good to all will result when the great body of family doctors and specialists work in unison, each member of the two bodies filling a position for which his general or special knowledge fits him.

K.

THE COURSE OF THE SENSORY FIBRES IN THE SPINAL CORD.

Dissociation of sensation, i. e., the preservation of one form of sensation—for exam-

ple, tactile—with the abolition of others, is a problem which has long puzzled physiologists and neurologists. This peculiar symptom-complex was, a few years ago, commonly thought to be pathognomonic of syringomyelia. But it is now known to occur in other affections, e. g., Pott's disease, tabes and from traumata of the cord. These cases presenting dissociation of sensation have naturally led to efforts to solve the question of the sensory pathways in the cord. The distinguished anatomist, Van Gehuchten, contends that pain sensations are conveyed to the opposite side of the cord through the gray matter from cells whose axis cylinders then chiefly constitute the column of Gowers. Lloyd, in a well studied case, published in the current number of *Brain*, concurs in this view of Van Gehuchten, holding that painful and thermic sensations are transmitted upward through the posterior columns (Goll and Burdach) of the same side.

Lloyd's case was one of traumatism to the cervical cord, in which the autopsy was made five years afterwards. The cord was most damaged at the seventh cervical segment, showing at this area marked degeneration of the left anterior root, the left lateral column, and about the central canal and slight degeneration in the right lateral column. The posterior columns were intact. Clinically, there was paralysis of the left arm and loss of pain-sense and heat-sense, with preservation of tactile sense on the right side below the seat of the lesion.

It is always unwise to draw general conclusions from a single case, but Lloyd's case is certainly explained by him most plausibly by the view he holds as to the sensory paths; and if this view should be confirmed by others it would be necessary, as Lloyd observes, to modify the definition of Brown-Sequard paralysis to read: Paralysis of motion and common (tactile) sensation on the side of the lesion with loss of pain and thermic sense on the opposite side.

T. D.

EDITORIAL NOTES.

TO CLEAR THE THROAT OF DIPHTHERIA BACILLI AFTER DISAPPEARANCE OF THE MEMBRANE.

It is well known that after all visible evidences of diphtheria have disappeared from the throat, some children remain in a kind of semi-immune condition, during which the report from cultures will be returned as "positive." Dr. Alfred Hand, Jr., *Philadelphia Medical Journal*, reports a method of procedure under which he has succeeded in clearing the throat in a comparatively short time. He advises "the thorough application, once daily, to the parts that have been affected, of a solution of 60 grains of silver nitrate to the ounce of water." This strength, he says, is less painful than a weaker one, but care should be observed not to apply it directly to the larynx. Two applications, as a rule, have been found sufficient; rarely a third may be necessary.

As the health authorities very properly refuse to remove the contagious disease sign and disinfect the premises before the throat is free from the diphtheritic germs, a remedy that will accomplish what is claimed for this solution will be found of great service.

K.

THE PSYCHIATER.

The above is the name of a new journal, published quarterly by the medical staff of the Illinois Eastern Hospital for the Insane, (Kankakee). In it are given the results of clinical observation and various investigations made in the institution, and the various laboratories connected with it. It represents a step far in advance of the ordinary hospital report, and indicates a degree of scientific activity worthy of emulation.

K.

REFORM OR OFFICIAL NAMES.

The editor of the *Philadelphia Polyclinic* takes us to task mildly for our position regarding the spelling of chemic terms. We are quite willing to "follow the procession" as long as it is headed by the *Pharmacopœia*, especially as it represents our official guide and is recognized by the governments

of many States of the Union. We are, however, not so set in our ways as to be incapable of adopting new rules every ten years in keeping with the recommendations of properly constituted authorities. In the interim we prefer to hold a position in the solid front, rather than with the skirmishers who are in continual danger of being driven back into the lines.

K.

Reviews.

HAND-BOOK OF MATERIA MEDICA FOR TRAINED NURSES. Including Sections on Therapeutics and Toxicology, and a Glossary of Terms with Dose and Use of Each Drug. By John E. Groff, Ph. G., Apothecary in the Rhode Island Hospital, Providence. Price, \$1.25, net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

The growing importance of the trained nurse necessitates in her, also, a wider scope of knowledge, and in no branch of her knowledge is this more needful than in materia medica. A quotation from the preface may, perhaps, best indicate the character of the book: "The work is intended to make the nurse acquainted with the numerous drugs of vegetable and chemie origin, their Latin and English names, the parts used, the names of and something about the preparations, the chemicals used as medicines, the handling of them, etc. It is a systematic arrangement of a subject which hitherto has been left for the nurse to pick up haphazard." A careful separation of official from unofficial drugs adds to the value of the arrangement of the subjects. At the end of each chapter there is appended a list of questions for self-examination—also a good feature.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume the Fifteenth. Edited by DeForest Willard, A.M., M. D., Ph. D., Recorder of the Association. Printed for the Association. For Sale by William J. Dornan, Philadelphia. 1897.

This volume must prove a good addition to any library, although of peculiar interest to members of the Association and to surgeons. Of course, the volume is intended to be a record of the doings of the Association, but from the opening address of the president ("The Influence of Anæsthesia on the Surgery of the Nineteenth Century") to the closing paper, the volume is replete with matters of interest to every practitioner. The article of J. William White, "Röntgen Rays in Surgery," John B. Roberts, "Treatment of Suppurative Pericarditis," Rudolph Matas, "The Surgical Treatment of Congenital Ano-rectal Imperfora-

tion," and Dudley P. Allen, "Origin of Appendicitis," may be mentioned as being of special interest and profit, although it is indeed hard to discriminate at all when considering such able papers as appear in this volume.

An interesting account of the unveiling of the statue of Samuel David Gross, and report of the addresses delivered on that occasion, are included.

H. C. W.

A MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED. Including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, U. S. A. Designed for Military and Civil Use. By Alvah H. Doty, M. D., Health Officer of the Port of New York; Late Major and Surgeon, Ninth Regiment, N. G. S., N. Y., etc.. Second Edition Revised and Enlarged. New York: D. Appleton & Company. London: 33 Bedford street. 1898.

A very neat, attractive little volume and one which must find a place with those who desire to act as "good Samaritan" to the sick and injured until better treatment is afforded. The chapter on wounds, bandages, fractures, etc., are all very good, but this work is open to the same criticism that most of its class fall under, in that it is too complete and to master its direction would require a study which but few emergency workers give unless (as in the army) they are under training for that purpose. A knowledge of anatomy and physiology is not necessary (and never acquired) by such workers: a few very plain, simple instructions as to "what to do until the doctor comes" are all that belong in the real province of such a work, and when that line is passed, another and larger field of medical (and surgical) literature has been invaded, which, needless to say, is already well occupied. Just such a work as this purports to be, leaving out that which we expect only of the medical man, putting in simple form the absolute necessities which can readily be attended to by any intelligent person will deserve—and will have—success.

H. C. W.

ATLAS OF LEGAL MEDICINE. By D. E. Von Hofman, Professor of Legal Medicine and Director of the Medico-Legal Institute at Vienna. Authorized Translation From the German. Edited by Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York, etc.. Assisted by Aloysius O. J. Kelley, M. D., Instructor in Physical Diagnosis, University of Pennsylvania, etc. 56 Plates in Colors, and 193 Illustrations in Black. Price, \$3.50, net. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

This volume is one of a series which ought to prove most popular with medical men. Every student recognizes the great value of accurate illustrations as a help in study and in permanently

fixing in the mind a subject which, from the text alone, he would utterly fail to comprehend. The great drawback to all publications of this kind heretofore has been the expense involved and to have access to such superior plates as are afforded in this atlas, at a nominal rate, is a great advantage. The plates in this volume illustrate medico-legal subjects of importance to every practitioner, whether for medico-legal purposes or general information, and include many subjects, the positive recognition of which might be of tremendous importance. The organs, etc., involved in death by hanging, drowning, gunshot injuries, poison (particularly acids), and many other peculiar and interesting subjects are reproduced from the original subjects in fine style. It is impossible to give even a satisfactory synopsis of the illustrations, they are so varied and numerous. There is merely text enough to intelligently describe the picture in briefest and simplest manner. The volume is intended to teach pictorially, and it is valuable in that way. H. C. W.

BRIEF ESSAYS ON ORTHOPÆDIC SURGERY. Including a Consideration of Its Relation to General Surgery, Its Future Demands, and Its Operative as Well as Its Mechanical Aspects, With Remarks on Specialism. By Newton M. Shaffer, M. D., Surgeon in Chief to the New York Orthopædic Dispensary and Hospital, etc. New York: D. Appleton & Company. 1898.

The title of this book is in a measure misleading, as it is really a series of short essays about orthopædic surgery, and would form a very good introduction for a volume on the practice of that branch of surgery. The articles have appeared before from time to time during the last fourteen years in some of the eastern medical journals, and as the author remarks, are now put in this form at the request of friends.

H. C. W.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by Alfred Lee Loomis, M. D., LL. D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M. D., Professor of Medicine in the Cornell University Medical College, New York, etc. Volume IV. Diseases of the Nervous System and Mind—Vaso-Motor and Trophic Disorders—Diseases of the Muscles—Osteomalacia—Rachitis—Rheumatism—Gout—Lithæmia—Obesity—Scurvy—Addison's Disease. Illustrated. Cloth, \$5.00; Leather, \$6.00. Lea Bros. & Co., New York and Philadelphia. 1898.

Many of the articles in this volume have been written by America's ablest writers on their special subjects. Especially is this true of diseases of the nervous system and the mind. The terms, "anemia" and "hyperemia," as applied to the spinal cord are considered obsolete. Much importance

is attached to toxemias and thromboses, as etiological factors in the production of spinal disorders. It is hinted broadly that infantile spinal paralysis belongs to the germ diseases. The most important spinal lesion, of adult life, locomotor ataxia, is ably discussed in an article covering forty pages. Although nothing new is added to our previous knowledge of this disease, the monograph is an excellent one. Recent investigations in cerebral localization may be summed up in the conclusion that centers for individual muscles have not yet been found, although centers for certain groups of muscles are readily distinguished. The clinical significance of anemias and hyperemias of the brain is probably underestimated. That brain congestions are mainly due to the increased velocity of the blood current seems to be a rational explanation of certain clinical phenomena. If the theory that neuralgias are largely due to auto-intoxications and toxic substances in general, proves to be correct, a step forward in the treatment of the troublesome conditions may be anticipated. On page 546 a formula for a tonic needs correction, even when the ounce is substituted for the dram symbol, the dose of tincture of nux vomica is too large.

Melancholia is considered more curable at home than in an asylum, and auto-intoxications are held responsible for a majority of all mental disorders. If these suppositions prove to be correct, the prognosis will improve accordingly. The chapters on rheumatism and allied conditions contain little evidence of original investigations. Factors which will appeal to American readers are: That this work was projected, planned and outlined, largely by that eminent scholar, teacher and author, the late Dr. Alfred Lee Loomis, and that it was written exclusively by Americans.

E. B. B.

THE OFFICE TREATMENT OF HEMORRHOIDS, FISTULA, ETC., Without Operation, Together With Remarks on the Relation of Diseases of the Rectum to Other Diseases in Both Sexes, But Especially in Women, and the Abuse of the Operation of Colostomy. By Charles B. Kelsey, A. M., M. D., Late Professor of Surgery at the New York Post Graduate Medical School and Hospital, etc. E. R. Pelton, No. 19 East Sixteenth St., New York. 1898.

These lectures picture the reaction which often takes place in an active surgeon's life after seeing the abuse of certain major operations.

E. B. B.

NEW BOOKS.

A Text Book of Materia Medica, Therapeutics and Pharmacology. By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the Uni-

versity of Illinois, etc. Second Edition, Revised. Price, Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

An American Text Book of the Diseases of Children. Including Special Chapters on Essential Surgical Subjects; Orthopaedics; Diseases of the Eye, Ear, Nose and Throat; Diseases of the Skin, and on the Diet, Hygiene and General Management of Children. By American Teachers. Edited by Louis Starr, M. D., Consulting Pædiatrist to the Maternity Hospital, Philadelphia, etc. Assisted by Thompson S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania, etc. Second Edition. Revised. Price, Cloth, \$7.00. Sheep or Half Morocco, \$8.00. For Sale by Subscription. Philadelphia. W. B. Saunders, 925 Walnut Street. 1898.

A Clinical Text Book of Medical Diagnosis for Physicians and Students. Based on the most recent methods of examination. By Oswald Vierordt, M. D., Professor of Medicine at the University of Heidelberg, etc. Authorized Translation with Additions. By Francis H. Stuart, A. M., M. D., ex-President Brooklyn Pathological Society; Obstetrician to the Brooklyn Hospital, etc. Fourth American Edition, from the Fifth German. Revised and Enlarged With 194 Illustrations. Price, Cloth, \$4.00 net. Sheep or Half Morocco, \$5.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

An American Text Book of Gynecology, Medical and Surgical for Practitioners and Students. By Henry T. Byford, M. D., J. M. Baldy, M. D., Edwin B. Cragin, M. D., J. H. Etheridge, M. D., William Goodell, M. D., Howard A. Kelly, M. D., Florian Krug, M. D., E. E. Montgomery, M. D., William R. Pryor, M. D., George M. Tuttle, M. D., Edited by J. M. Baldy, M. D. Second Edition. Revised. With 341 Illustrations in the text, and 38 Colored and Half-Tone Plates. Price, Cloth, \$6.00. Sheep or Half Morocco, \$7.00. For Sale by Subscription. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

A Text-Book of Practical Therapeutics: With especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin, and Barton C. Hirst. New (seventh) edition. In one octavo volume of 770 pages. Illustrated. Cloth, \$3.75; leather, \$4.50, net.

Diseases of Women: A Manual of Gynecology. Designed especially for the use of Students and General Practitioners. By Francis H. Davenport, M. D., Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston. New (3d) revised and enlarged edition. In one 12mo. volume of 387 pages, with 155 illustrations. Cloth, \$1.75, net. Lea Brothers & Co., Philadelphia and New York.

Elements of Histology. By E. Klein, M. D., F. R. S., Lecturer on General Anatomy and Physiology, and J. S. Edkins, M. A., M. B., Joint Lecturer and Demonstrator of Physiology in the Medical School of St. Bartholomew's Hospital, London. With 296 Illustrations. Revised and En-

larged Edition. Philadelphia and New York: Lea Brothers & Co.

A Guide to the Clinical Examination and Treatment of Sick Children. By John Thomson, M. D., Extra Physician to the Royal Hospital for Sick Children, London; Lecturer on Diseases of Children, Edinburgh School of Medicine. In one crown octavo volume of 350 pages, with 52 illustrations. Cloth, \$1.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

A Text-Book Upon the Pathogenic Bacteria. For Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, etc. With 134 Illustrations. Second Edition. Revised and Enlarged. Price, \$2.50 net. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

The Essentials of Histology. Descriptive and Practical. For the use of Students. By E. A. Schaefer, LL. D., F. R. S., Jodrell Professor of Physiology in University College, London, etc. New (fifth) Edition, Revised and Enlarged. With 392 Illustrations. Philadelphia and New York: Lea Brothers & Co. 1898.

Medical Diseases of Infancy and Childhood. By Dawson Williams, M. D., Physician to the East London Hospital for Children. In one 12mo. volume of 629 pages, with 18 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The Ohio State Medical Society. Transactions of the Fifty-third Annual Meeting, Held at Columbus, Ohio, May 4, 5, 6, 1898. Edited by P. Maxwell Foshay, M. D., Cleveland, Ohio. Press of J. B. Savage, Cleveland, Ohio.

Transactions of the Forty-Eighth Annual Meeting, With Constitution and By-Laws of the Illinois State Medical Society, Held in Galesburg, Ill., May 17, 18 and 19, 1898. Ottawa, Ill.; Free Trader Printing House.

REPRINTS AND PAMPHLETS.

The Use of Quinine in Malarial Hemoglobinuria. By Albert Woldert, Ph. G., M. D., of Philadelphia. Reprinted from the Medical News, April 30, 1898.

Complicated Cataract: a Clinical Lecture. By S. D. Risley, M. D., Philadelphia. Reprinted from the Annals of Ophthalmology, April, 1898.

The General Management and After-Treatment of Cataract. By S. D. Risley, M. D., Philadelphia. Reprinted from the University Medical Magazine, May, 1898.

Two Cases of Marked and Rapid Change in Patients Suffering From Glycosuria Associated With Variation in the Amount of Sugar Secreted in the Urine. By S. D. Risley, M. D., Philadelphia. Reprinted from the Ophthalmic Record, July, 1897.

An Optometer—A Fixed Form of Apparatus for the Trial Lenses, and for the Determination of Anomalies of Ocular Balance. By S. D. Risley, M. D., Philadelphia. Reprinted from the Ophthalmic Record, January, 1897.

Defective Coquille Glasses—A Frequent Cause of Additional Irritation to Weak and Inflamed Eyes. By S. D. Risley, M. D., Philadelphia. Re-

printed from the American Journal of Ophthalmology, November, 1896.

Ocular Affections Associated with Lithemia. By S. D. Risley, M. D., Philadelphia. Reprinted from the Philadelphia Polyclinic, Vol. IV., June 29, 1895, No. 26.

A Clinical Memorandum. By S. D. Risley, M. D., Philadelphia. Reprinted from the Medical Summary, December, 1892.

Progress in Neurology. By Professor C. H. Hughes, M. D., St. Louis. Reprinted from the Alienist and Neurologist, July, 1898.

Medical Service and Medical Fees. The Business Side of the Practice of Medicine. By C. H. Hughes, M. D., St. Louis. Reprinted from the Alienist and Neurologist, July, 1898.

The Sanitary Salvage of Our Soldiers in Cuba. By Major Charles H. Hughes, St. Louis. Reprinted from the Alienist and Neurologist, July, 1898.

Renal Calculus. By J. H. Musser, M. D., Philadelphia. Reprinted from the Philadelphia Medical Journal, April 16, 1898.

Symposium on the Pathology of the Diseases of the Cardio-Vascular System. The Myocardium. By J. H. Musser, M. D., and J. D. Steele, M. D., Philadelphia. Reprinted from the Proceedings of the Pathological Society of Philadelphia.

The Essential of the Art of Medicine. By J. H. Musser, M. D., Philadelphia. Reprinted from the Philadelphia Medical Journal, June 25, 1898.

The Diagnostic Importance of Fever in Late Syphilis. By J. H. Musser, M. D., Philadelphia. Reprinted from the University Medical Magazine, October, 1892.

The Prevention of Diseases Now Preying Upon the Medical Profession. By Leartus Connor, M. D., Detroit. Reprinted from the Bulletin of the American Academy of Medicine, Vol. III., No. 9.

Diseases of the Lachrymal Passages—Their Causes and Management. Read before the Monroe County Medical Society. By Leartus Connor, M. D., Detroit. Reprinted from the Journal of the American Medical Association, July 2, 1898.

Traumatic Nervous Affections. A Study of Ten Cases. By Theodore Diller, M. D., Pittsburgh. Reprinted from the American Journal of Medical Sciences, September, 1898.

SELECTION OF PHARMACISTS.

The *Ohio Medical Journal* says that physicians do not, as a rule, use as much discretion as they should in the matter of recommending a competent pharmacist. When the prescription has been written the choice of a pharmacist is left entirely to the patient. Too often it is taken to the "cut-rate" store, where any "cut" in the price is made at the expense of the quality of drugs used. The standard scale of prices charged by competent druggists is not exorbitant, and better results will be obtained by warning patients against the cut-rate establishment than by total disregard of the matter.—(Maryland Med. Jour.)

Monthly Reports of County Societies.

REPORT OF THE MAY AND JUNE MEETINGS OF THE DAUPHIN COUNTY MEDICAL SOCIETY.

MAY MEETING.

At the May meeting of the Dauphin County Medical Society Dr. D. B. Traver read a paper entitled "Bits of Talk About General Practice," in which he took occasion to compare the practice of medicine and surgery as in vogue from twenty or twenty-five years ago, with that of to-day. He humorously alluded to the modern fads and fashions in practice and criticised the tendency prevailing toward specialism among the laity as well as the medical profession, which was unjust, he believed, to the general practitioner, who was too apt to give way to the tendency and trend of this pressure. He thought that asepsis rather than antiseptis with its cumbersome and varied rationale and myriad recommendations, would be of more use to both patient and practitioner. He believes that the types of diseases have grown to be milder now than formerly, say twenty-five years ago, when he first entered the profession, due to improved methods. He does not believe, however, that the mortality rate of typhoid fever and pneumonia has grown less with modern treatment and is inclined to the belief that the older practitioner will agree with him. In his paper he desired to allude to some cases in his practice which were remarkable from their infrequency, both in fact and in medical literature. He desired to call attention to a case of fracture or separation of the symphysis pubis occurring in a man over whom a six horse team heavily loaded with stone, had passed without producing any abrasion of the skin or crushing of the bones, or any other injury to the body except as mentioned. Under simple treatment with a roller bandage, the patient recovered. He was called to see a boy over whose

chest a coal team had passed, in which case no bones were fractured, but the injury resulted in traumatic pneumonia, from which he apparently recovered, but some days afterward developed an evening temperature of 104 degrees with a normal morning temperature, which persisted for several days. This was followed by diarrhoea and was evidently a case of traumatic pulmonary abscess from which the patient entirely recovered.

A boy of four years slipped on the ice, receiving some sort of an injury. When the doctor was called he found him abed; examining the part said to have been injured found slight swelling and sensitiveness on examination, but discovered nothing, as he thought, serious and turned to leave, but noticing his face wince with apparent pain, he ordered him placed on his feet. The boy yelled. He then more closely examined him and discovered this time a fractured femur and crepitus. This taught the reader a lesson which he deserved. Appropriate treatment was instituted and in four weeks the boy walked down a steep hill, entirely recovered.

He has met with three cases of early rupture of the membranes, the one followed by delivery in six days, another in four weeks, another in ten weeks. He has also had a case, where the entire contents of the uterus, child placenta and unruptured membranes were expelled at once at the seventh month. The child lived two days. A child at full term, emerged transversely, instead of antero-posteriorly. He has been called to see a woman of 66 years for a supposed case of la grippe and found instead, a case of lumbar hernia, of which Gross says there are only three cases on record.

He has met with case after case of tachycardia, in the convalescence of typhoid fever and pneumonia and acute diseases, persisting for months after apparent recovery of the original disease, the cause of which is perplexing to him, and of which he can find no mention in medical literature.

He has had a case of typhoid fever which developed a temperature of 105 degrees persisting for thirty-one days.

The reader alluded with evident enjoyment to the fact that now-a-days simple abscesses are treated with the utmost refinement of surgical technique, for which correspondingly enormous fees are obtained from the willing laity. He is uncomfortable that the practice did not obtain in his younger days.

Dr. Funk expressed his pleasure at the reading of the paper and its unusual character. It is one thing to see and diagnose a case, with the help of the family, and quite another to critically study and master it alone. In very many cases he thought it unadvisable to be told the opinion and treatment of a previous consultant. All such cases as the reader cited, are unique and should always be singled out to be mentioned and discussed.

Dr. E. H. Coover desired to relate a case which was somewhat similar to one cited. In 1851 one of his patients was run over by a railroad hand car. The skin and bones were not apparently injured, but the muscles of his legs were cut through to the bone. A child of four years of age fell off a load of hay in front of the team, which passed over the chest. The child spit up blood and remained abed for several days with no pneumonia or abscess and recovered.

Dr. James cited a case similar to the last and emphasized the fact that to the laity, these could be termed freaks in surgical lesions and were often surprising.

Dr. Ellenberger believed that the tachycardia alluded to was caused by fatty degeneration of cardiac tissue, resulting from long continued fever and that the upright position resumed in convalescence involved extra cardiac labor, felt in increased rapidity with lessened force of the heart.

Dr. Fred Coover said, with others, that he was distinctly friendly to modern surgery. The history of surgery calls atten-

tion to the fact, that modern surgery with perfect technique and careful detail has almost removed that formidable element of sepsis which rendered the progress of the older surgery tenfold graver, more tedious and less successful than what at present obtains. A case of major operation now, is out frequently in two weeks. It is the exception to-day that a successful surgical treatment should require as much medical concern as formerly, which is due not only to asepsis but to antisepsis as well.

JUNE MEETING.

At the June meeting a paper was read by Dr. Middleton entitled "Diet in Fevers and Exhausting Diseases." Although the subject was a very general one the speaker confined his paper to the dietary of typhoid fever as particularly illustrative of the truth which he wished to emphasize, that the tendency of the profession appeared to be too much in the line of drug-ging and neglectful of diet. He condemned routine treatment unsparingly expressing his disbelief of fadism. Rather should the individual, than the disease be treated, by attacking the conditions prevailing in a given case. He would remind his hearers of the actual condition of the economy in exhausting fevers. Functional inhibition, digestion and assimilation below par, concomitant to a lessened need of food, high temperature, diminished amount of liquids in the body, profound prostration of the nervous system, diminished sleep, nitrogenous waste, were all factors to be weighed and carefully treated as well as the etiological factor of the disease with the absorption of its toxin. In selecting the diet for such patients, it should be remembered that the enormous loss of nitrogen should be offset with careful attention to individual need and not to any hard or close rule. The tendency to the intestinal fermentation of food ought always to be considered. The fact that there is a diminished production of gastric and intestinal juices as well as biliary, should never be lost sight

of. The primary tendency to be fought is starvation; the secondary is continued self infection, and the majority of the symptoms he apprehended would come under this heading. While milk appeared to the profession to meet most fully the dietetic needs of the economy in typhoid fever as more completely offsetting aqueous and nitrogenous waste than any other diet to be thought of, yet it was very often repugnant to the patient and means should be adopted to render it less so. The danger to be apprehended in a diet of milk lay in its tendency to coagulation, and its fluidity and assimilation should be maintained by some means of predigestion. Its taste so objectionable when long continued could be altered in various ways as peppering, salting it or, by the addition of malt or vinous products. He had long ago mixed with it, either tea or coffee for their stimulating effects upon the heart. Junket or matzoon was often grateful. In some cases it needed dilution or even skimming. He has noted in common with others, an inability of some patients to digest milk without boiling, because of its producing diarrhoea, a point which he thought should always be inquired into before its use. In cases of profound exhaustion with weak digestion it should always be peptonized. It may be necessary at times to add Vichy or some alkali, while he has seen very good results from the addition of rice gelatine, or thin and long cooked oatmeal. In some cases soft bread and milk or crackers or gelatine, while not a valuable nutrient is allowable in order to vary the diet. Next to milk in dietetic importance stands meat. It should be remembered that in its preparation, an attempt should be made to preserve the nutritious myosin and separate the indigestible sarcolemma and connective tissue. Only such preparations of meat juices on the market which observe this precaution, should be used. Soups properly prepared can only be used as purés with arrow root or wheat flour and well seasoned, are often

acceptable only as a means of varying the usual diet. He wished again to emphasize the necessity of carefully estimating the needs of the individual rather than the disease alone.

Dr. Eli Coover agreed with the essayist that diet and nursing constituted one-half of the treatment of the disease. Years ago, milk was considered causative of fever, and no one was allowed to use it. He remembered that when he was ill himself of typhoid fever in 1851, that after a four week's siege when he seemed to steadily grow worse, he craved and importuned for milk which was denied him. Unbeknown to his attendant he obtained it and had his way and got well under it. He referred to his case only as a comparison between the practise of that day and the present.

Dr. James remarked that many cases would not and could not take milk continuously, although it is generally admitted that milk is a sheet anchor in typhoid fever. It could be varied with the white of an egg strained through cheese cloth and kept ice cold. Beef extracts or finely chopped meats, with digestants added, often help to tide the patient through the attack when milk might not be taken. He does not believe in starving fever patients, and the strength should be conserved. He thought the greatest trouble lay in preventing a relapse, which would always occur through carelessness on the part of both patient and physician during convalescence, which, in his opinion needed as much looking after as the fever and diarrhoeal stage. For two weeks after the fall of the fever the diet should be rigidly corrected, both as to quantity and quality.

Dr. Hamilton thought that a certain amount of routine should be judiciously followed. He invariably watched the fæces to note the healthy "baby" stool which showed freedom from poisoning. He called attention to the fact that albumin of whatever nature, coagulated at 212 degrees is an excellent food and the more raw it is the more

digestible is it. Gelatine in no instance should be employed as an adjuvant to the diet, as it was one of the most favorable germ culture medium known. He would rather give a patient ice cream than gelatine.

Dr. Fred Coover went through a typhoid experience in 1870 and received nothing but milk and ice cream for his diet, which carried him through. He received whiskey and turpentine emulsion. His professional experience with milk in typhoid fever was such as to commend it. He had never noted any harm from the use of ice cream.

Dr. Walter alluded to the illness of his own boy, who could never in health use milk. It was prescribed by his attendant and could not be taken until the mouth and teeth were thoroughly cleansed and rendered aseptic. Every half hour this was attended to with the result that the patient acquired a liking for it. He thought that in every case the idiosyncrasy should be attended to.

Dr. Middleton was of the opinion that there should always be a free ingestion of pure water in as large amounts and as often as the patient craved it, for it tended to eliminate the toxins through the skin, bowels and kidneys. Of course some sort of antiseptic therapeutics should be followed for this tended to free the patient from cephalgia and meteorism.

*George E. Bill,
Editorial Committee.*

REPORT OF THE AUGUST MEETING OF THE ALLEGHENY COUNTY MEDICAL SOCIETY.

At the meeting held August 16, 1898, Dr. J. W. Macfarlane presented a patient with the following report:

CONGENITAL TALIPES EQUINO-VARUS OF BOTH FEET.

Jemima McGibbon, æt, eight years, was admitted to the West Penn Hospital, October 5, 1897.

She had congenital talipes equino-varus of both feet, the left being the more pronounced. In addition, she had marked contraction of the ham-string tendons of the right leg, producing complete flexion, with rota-

tion, which threw the ankle above and back of the popliteal space of the left leg. There were large *brusæ* upon both knees, bearing evidence to the fact that she crawled around upon her hands and knees.

October 10. The tendo-Achillis was divided, and a resection of the foot performed—removing a wedge-shaped piece of the tarsal bones through an inverted incision on the outer side of the foot.

The foot was carried well out and secured in a plaster cast.

October 29. The ham-string tendons of the right leg were divided, but as this only gave a slight correction, we attempted to get the limb straight by brisement force. This we were soon obliged to discard, as the skin in the popliteal space began to tear. The limb was placed upon a carefully padded posterior splint, with a view of securing some of the correction gained.

On November 4 the patient suffered from a severe convulsive seizure of unknown cause, and being anxious to free her from any possible irritation, the splint on the right limb was removed, and the limb flexed at right angles.

November 10. The wound of the left foot was redressed and not changed until seventh week from date of operation, when foot was found healed in correct position.

On January 22 an excision of the right knee was performed. The rigidity of the limb was secured by nails.

The dressings were not removed until the 21st day, when the nails were withdrawn.

The patient left the hospital April 2, with a firmly ankylosed knee; protected by a leather splint.

The patient walks perfectly well with crutches, sustaining her whole weight upon her nude left foot. I think a minor operation will correct the right foot, when we feel confident that with a raised shoe she will be able to walk well without crutches.

DISCUSSION.

Dr. S. L. McCurdy:—This child, in addition, has, I notice, webbed toes—almost complete. It

shows the tendency of the body in this case to produce deformities.

With regard to knee joint excision, I saw a case recently when, in an effort to produce a parallelism between the femur and the tibia and fibula, the head of the tibia was thrown back against the popliteal artery. This pressure resulted in complete gangrene of the extremity, which required amputation.

Dr. J. J. Buchanan:—With reference to excision of the knee joint, I have, in two cases recently, employed Fenwick's method, resecting the bones in a curve. I think any one who has experienced the difficulty of getting two plane surfaces exactly in apposition so as to leave no dead space between them and in keeping them there, will be pleased at his first trial of the curved method. It is very easy to make a curved surface of the femur and of the tibia; and when the concavity and convexity are brought together, even if there is a little play between the bones, they cannot get out of position. Fixation by suture or pegs is unnecessary.

Dr. J. J. Buchanan reported excision of the sacro-iliac joint in two cases, both tubercular, of whom one died about six months later and the other is recovering. He also reported cases in which was successfully tried a new operation for the relief of painful stumps by resection of the affected nerve and wrapping its stump in gold foil, which is buried with it, thus effectually preventing adhesions. He also exhibited instruments of original design for operation on cleft of the hard and soft palates. The knives and periosteal elevator are of copper and steel combined, so that different angles may be given as the exigencies of the case demand. He also used them with satisfaction.

DISCUSSION.

Dr. R. W. Stewart:—Diseases of the sacro-iliac joint are not as infrequent as we have been led to believe. A considerable proportion of these cases are not tuberculous, but due to strains or jars incident to the labor of coal miners and mill men. In the differentiation of this disease, the pain on crowding the ilii together, is pathognomonic. This is a point which is practically ignored from a diagnostic standpoint.

Dr. J. W. Macfarlane:—There is one point in these cases which must not be lost sight of, and that is, it is not uncommon for an abscess to burrow through into the pelvis. I have seen patients die under these conditions, whereas, had the circumstances been understood earlier, something, no doubt, could have been done.

In operations on tuberculous patients, where there are a number of foci in the bone, good results can hardly be looked for.

Dr. S. L. McCurdy exhibited some improved orthopedic apparatus, and spoke as follows:

I desire to present some apparatus to accomplish certain purposes more satisfactorily.

In the management of Pott's disease, two points have not been satisfactory, viz., the method of supporting the head in upper dorsal and cervical disease, and the manner of applying plaster jackets by suspension, especially in children.

To give perfect support to the head, the line of support must be brought from the pelvis to the head at equal points of its circumference. As the transverse processes of the vertebræ make the posterior point of support, the anterior points would appear to be the anterior superior spines of the ilii and from this directly to the chin piece.

The idea of anterior support is not new, but this particular head support is new. It affords a positive and definite amount of support not given by the jury-mast, and the head cannot drop forward, as is possible in all posterior supports.

In the treatment of Pott's disease, a jacket is sufficient in diseases of the five lower dorsal, and all of the lumbar vertebræ. For diseases of the first seven dorsal vertebræ, a head support and a jacket should be used. For cervical disease a jacket is not necessary, as a perfect support is afforded by the various collars.

The method of applying a jacket in a frame is not new. The frame herewith shown is made of wood; spikes project from the under surface. As the canvas is drawn over the edge of the frame, it is hooked over these spikes and any degree of tension may be given it. To furnish further support to the body, and add strength to the canvas, two strips of webbing are passed around the frame, one under the pelvis below the jacket, and the other under the shoulders and thorax above the jacket. These prevent the body from sagging.

If it is desirable to practice gradual cor-

rection of the deformity of Pott's disease, it may be done on the frame. This procedure has been practiced by myself, as well as others, long before Calot described his procedure of immediate and forcibly correcting spinal deformity under an anæsthetic. To my notion, deformity should not be permitted to develop, and if support cannot be furnished during locomotion, recumbency should be carried out rather than permit a kyphose to develop.

For the treatment of hip-joint disease, I want to call attention to the importance of immobilizing the joint, as well as applying traction.

With the brace herewith shown, which is a combination of the Thomas and Polyclinic, the joint is absolutely immobilized. The patients can fall, and the joint cannot be injured, and while the brace does include the thorax, and there is a temporary inconvenience, in a short time they will get about as other children do.

DISCUSSION.

Dr. J. W. Macfarlane:—With reference to the Calot operation for forcibly straightening the spine, there is nothing accomplished that cannot be accomplished by less radical means, combined with time and patience.

Dr. R. W. Stewart:—I wish to say a word with reference to Calot's operation for forcibly straightening the spine. My experience is limited to two cases. In a case of paralysis due to Pott's disease, the spine was forcibly straightened under anæsthesia and resulted in relief of pain, but had no effect on the paralysis.

The other, however, represents a class of cases where I believe there is a field for this operation. The patient was about three years of age. The spine was flexed to such an angle that if he had grown up in that condition he would have been exceedingly deformed. He was unable to walk, and unable to stand unless he had hold of something. I felt, in this case, that I was justified in forcibly straightening the spine and did so, and the results have been very satisfactory. I mention this case as an example of a class in which the operation, I believe, is justified.

Dr. S. L. McCurdy:—It is true that it takes time to produce a gradual treatment, perhaps five or six years. Time is not of so much value to a child as an ultimate, permanent correction. The X-rays show that by forcible extension a

large V-shaped gap is created which may take years to fill.

Dr. J. J. Buchanan:—I do not believe that credit should be given to Calot for first straightening the spine by forcible extension. In Ambrose Paré's work is a figure illustrating this method even long before Paré's time. There is absolutely nothing new in the procedure. I should not presume to condemn this operation, as I have had no experience with it, but it does seem to me to be based on bad pathology.

Dr. S. L. McCurdy:—Calot is only given credit for reviving an old method.

*J. I. Johnston,
Editorial Committee.*

Current Medicine.

THE PROGNOSIS IN CARDIAC DISEASE.

The attention which has of recent years been paid to prognosis in heart disease, and the increase of our knowledge with regard to it, has led me to its choice as the subject for discussion this evening. Notwithstanding the progress which has been made, the prognosis in cardiac disease is still probably one of the most difficult questions in clinical medicine. The fact that some of the most serious and suddenly fatal forms of disease are at times preceded by so few symptoms will always make it difficult to foretell the result in this class of cases. In the first half of life valvular lesions are the result of endocarditis, and the prognosis during the attack depends largely upon the nature of the infective agent. If endocarditis occurs during an attack of rheumatism the immediate prognosis is favorable, but the liability to the occurrence renders the future more uncertain. Endocarditis, which results from scarlatina, is not likely to occur. The prognosis in endocarditis, due to other infective agents, depends largely upon the particular micro-organism present, as well as the resisting power of the constitution; it also depends largely upon the treatment adopted and upon the behavior of the patient. A few moments of overexertion during any stage may very much increase the gravity of the prognosis. Little reliance can be placed upon the volume of sound in aortic stenosis. The presence of dizziness and attacks of fainting are signs of cerebral anemia, and therefore of a more serious lesion.

The prognosis in mitral stenosis is not so favorable as in regurgitation, first, on account of the tendency of the opening to become smaller; second, in mitral regurgitation the force of the right ventricle acts in two ways: It resists the reflux into the ventricle, and fills the ventricle more rapidly in diastole. The prognosis of stenosis is not so favorable as when it occurs later in life. In aortic insufficiencies, three conditions may prevent a collapsing pulse in cases of grave prognosis: First, aortic stenosis preventing the return of blood to the heart; second, the failure of the heart muscle, on account of which the blood is not propelled with sufficient force to produce a collapsing pulse; third, the loss of elasticity may prevent our noticing the collapse. Irregularity of the pulse, both in frequency and force, occurs in the latter stage of the disease. Enlargement of the liver, venous stasis, edema, albuminuria are, of course, unfavorable symptoms. If these conditions have been caused by overwork, or if rest is followed by a decided amelioration of symptoms, the prognosis is more favorable. The social condition of the patient may be an important factor. If he has plenty of means, and the wish to take proper care of himself, he will probably live much longer than one who has to struggle to support himself and family. Personal habits play an important part, especially the use of tobacco and alcohol. I am firmly convinced that the deleterious effect of the use of tobacco is much underestimated, and that it is frequently the cause of serious changes in the heart. Alcohol has an injurious effect, especially in the production of arteriosclerosis.

It may be stated, by way of conclusion, that the patient of regular habits, who does not use tobacco; who is either a total abstainer or a very moderate user of alcohol, possessing an even temper; whose calling requires a moderate amount of regular exercise; who lives among healthy surroundings; who has freedom from worry, is one who, other things being equal, stands the best chance of long life. Sex has an important bearing. Mitral stenosis occurs more frequently in the female, and aortic insufficiencies in adults. Broadbent says: "When the valve disease comes on in childhood, girls break down at the period of puberty more often than boys."—(Dr. J. H. Graham, in the *Canadian Practitioner*.)

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Original Articles.

Papers read at the meeting of the Medical Society of the State of Pennsylvania at Lancaster, May 18 and 19, 1898:

SOME CASES OF INJURY TO THE EYES OCCURRING IN GENERAL PRACTICE.

BY A. R. CRAIG, M. D., OF COLUMBIA.

While at lectures and during my hospital course, cases like the following were probably thought to be too commonplace for special notice. At least I do not remember ever to have seen any like them in the clinics. Yet in my practice they have been by no means infrequent and to me they have always been of interest. This, together with the hope that my little experience may prove of value to some of my fellow practitioners, is my excuse for offering this report.

Quite a number of cases of severe burns of the eye have come under my care. Of these I have selected three because of the various locations and degrees of the lesions. The first, a deaf mute had an extensive burn of both conjunctivae, but the wounds were not deep. The case was of particular interest on account of the patient's afflictions. In the second case the deepest burn was on the cornea, while in the third the lower lid received the most injury and there was considerable slough. All three cases were treated on the same general plan. The cause in each instance was a flash from the rolls in a rolling mill. First, the iron was carefully removed from the eye, cocaine being used when needed, and the conjunctival sac thoroughly washed with boric acid, gr. x, and sodium chloride gr. i j to each ounce of boiled or distilled water. A drop of atropine solution, four grains to the ounce, was instilled. A small quantity of clean petrolatum was then placed under

the lids and the patient was put to bed. Compresses from ice or ice water were placed on the eyes and changed as often as they became warm. Every three hours, a bath of hot water was given and the boric acid wash and the petrolatum were applied. During these manipulations the lids were drawn open to prevent, if possible, any adhesion between the ball and the lid. The atropine was instilled three times a day if needed to keep the pupil dilated. This is an extremely important point in the treatment of any acute inflammation of the eye, and yet it is often neglected. I would urge this use of atropine upon you, unless there be some decided contra-indication; and then, when in doubt, instill atropine. Internally small doses of corrosive mercuric chloride and potassium iodide were administered. In one case, where the inflammation was very high, leeches were applied and a pilocarpine sweat given. All made good recoveries. The burn of both eyes has hardly a scar. The burn of the cornea has a nebula occupying the lower half of the cornea which interferes with vision in a measure. The sloughing eyelid recovered with some slight deformity. In none of the cases was the movement of the eye interfered with.

R. L., a lad of 4 years, was playing in an outhouse when he fell, striking his face against a hook in the wall. I was called to see him and found the left lower lid torn from near the inner canthus, fortunately just outside the punctum, to a little beyond the middle point, giving the appearance of a finger sticking from the eye. The boy was very nervous, so an anaesthetic was given and the lid stitched into place. As it was impossible to get exact coaptation both on the skin and the conjunctival sides of the now swollen mass, I fitted the skin edges accurately together and allowed the swelling to be accommodated on the inner side. Cold compresses and frequent baths of the boric acid solution were used and to-day the little fellow is hardly any the worse for the accident.

A. K., aged 6 years, was brought to the Columbia Hospital on account of a sore eye, from which he had been suffering for four months. Examination showed a large corneal ulcer and an extremely chemotic conjunctiva. No foreign body was found, although a careful search was made for one. The boy was of a scrofulous family, and this seemed sufficient cause for the ulcer. Cleansing washes, cold, and atropine were advised as local treatment and syrupus ferri iodidi was ordered internally. At a subsequent visit, I thought I found a foreign body near the inner canthus, and removed a small particle of matter. The next time the boy was brought to the clinic the eye was practically well, but a scar remained from the healed ulcer. The mother carried the secret of the trouble with her wrapped in a paper. A few days after the previous visit she removed from the eye a small burr. Of course I should have used an anaesthetic so as to have made a more thorough examination and have cured the eye by removing the cause rather than by accident.

S. S., aged 5 years, was brought to the Columbia Hospital by his mother with the story that three days before he had been struck in the right eye by one of his playmates with a piece of kindling wood. The mother thought there was a splinter in the eye. Just to the inner side of the inferior rectus muscle there was a slight swelling, apparently a little blood clot, under the conjunctiva. As there was only a very slight ciliary congestion and the presence of a piece of wood was by no means certain, ice compresses were ordered for a day. There was no improvement next day, neither was there any further inflammation, but I decided to be sure of the condition of the eye. An anaesthetic was given and an incision made over the swelling. After cutting through the conjunctiva and into the sclera, the end of a piece of wood was discovered and seized with a delicate forceps and withdrawn. I was surprised to find the

splinter about a quarter of an inch long and as thick as an ordinary needle. The eye was carefully bathed and a gentle compress applied on account of the depth of the wound. The recovery was prompt and without incident.

P. K., aged 49 years, was brought to the Columbia Hospital on November 1, 1897, having been shot in the face by a rabbit hunter. A shot had entered over each eye, one on the right cheek, another on the right lower jaw and the fifth passed through the larynx. When first seen no view could be obtained of either fundus. The lens of his left eye was already hazy and he had but light perception in this eye. His right eye allowed him to count fingers doubtfully. He was put to bed, a gentle saline was given and perfect rest enjoined. The local treatment was, instillations of atropine and cold compresses with a hot water bath every three hours. Internally small doses of mercury and iodide were given. There was no inflammatory reaction and the fever never went above 99.4 degrees F. In a weeks' time the vision in his right eye had increased so that he could tell the time on a clock at 15 feet distance. A month after the accident he was sent to the clinic of Dr. de Schweinitz, who very kindly approved of the expectant plan of treatment that had been employed and had Dr. Sweet make several skiagraphs of the eyes. These photographs show one shot lodged in the ball of the left eye, one in the coats of the right eye, or immediately without the ball, and one, probably the one that entered on the right cheek, in the bones of the nose. Since the accident the vitreous opacities in the right eye have in a measure been absorbed, and the vision is 4-9. The lens of the left eye is too dense to permit a view of the fundus and there is still but light perception in this eye. The fields show the lower outer quadrant wanting in form perception in the right eye, while the light field of the left eye is contracted. Considering the lesion, I am very glad to report this result,

and gratified that no radical measures were employed for the removal of the shot.

From these cases my friends in general practice will, I hope, learn that injuries of this kind are not beyond their treatment, but let us remember that in venturing upon this work a grave responsibility is assumed.

DETERMINATION OF ERRORS OF REFRACTION BY THE SKIASCOPE DURING SLEEP.

BY P. J. KRESS, M. D., OF ALLENTOWN.

The practical determination of errors of refraction are comparatively easy by the subjective method, providing the surgeon has an intelligent patient, an abundance of time, and other conditions of accommodation, light, distance, etc., in like proportion, but in the objective method by the skiascope or retinoscope, we are enabled to solve some of the most difficult cases of refractive errors at almost any stage in life, and under quite unfavorable conditions.

There are those who still offer criticism of this method of correcting refractive errors, but to the present time there is yet to be found either a subjective, or other objective methods, which will produce more positive results, under like circumstances, than those derived by means of the skiascope. In the correction of optical errors in children, illiterates and the feeble minded, it is of inestimable value.

Quoting Jackson, he says: "Skiascopy is an objective test independent of the patient's intelligence or visual acuteness, and more largely than any other, independent of the patient's co-operation."

The intent of this paper cannot be better expressed than in the above words, to which I would add independent also of the patient's knowledge. As in the patient to be referred to it was necessary to make the examination entirely independent of his will.

A child, male, 5 years of age, having

come under my observation, who was undeveloped both in mind and body, and furthermore of an extremely nervous and sensitive temperament. In order to secure a correction of the refractive error of which he was suffering it was necessary to devise some means other than the ordinary objective methods.

The ophthalmoscopic examination was with difficulty obtained, but enough to show the child was quite hyperopic.

After cycloplegia with a weak solution of atropine, attempts were made in my office to secure a correction by skiascopy. Although the child was held by its mother, the plane mirror used at one meter distance, the source of light coming from the 5 m. m. opening of a Thorington chimney, it was impossible to get any result, as the child would not remain for more than a moment in one position, and I was unable to get the red reflex. After several unsuccessful attempts it was found necessary to make the correction while he was in such a condition that it could be done entirely independent of his knowledge, or when his mind was at rest.

Having an upright desk gas lamp with a long rubber hose, I attached to it an Argand burner and asbestos chimney. In the evening, taking it to the child's home, I connected the other end of the rubber tubing to a common gas burner. The boy was then put to sleep in the arms of one of the family, and while soundly sleeping he was placed in as nearly an upright position as it was possible to get without arousing him.

The eyelids were then held apart by an assistant, the pupils having been dilated by the atropine, and the room being dark, the retinal illumination was made very distinct by a plane mirror.

Having a drop light it was necessary to hold it in my left hand, the right being free to use the mirror. In order to quickly correct the refractive error, the patient was placed one meter distant from the imme-

diate source of light, and lenses of different strength used until the one was found which produced the artificial myopia.

The child being asleep the ordinary trial frame could not be used, the lenses being held before his eyes by the family physician. In this case the point of reversal was found at plus 5.00 D. sphere in each eye. With a plus 4.75 D. lens the retinal illumination moved with that of the face, and at plus 5.25 D. it moved against it.

During the operation the child slept comfortably, and although one eye was open at a time, the illumination did not seem to disturb it much, as very few times did he move, and it required only a few minutes for each eye.

The advantage of having a drop light in this kind of work is most important, as it is necessary for the skiascopist to put himself in such position that could not be assumed with the wall bracket.

The position of the eye when at rest will depend upon the anatomic and physiologic condition of the muscles which govern it. It will generally be the primary position of the ball, or that looking straight forward. Now to refract such an eye it is evident that the patient must be in as nearly an upright position as possible, especially when gas is used, as tilting of the light will interfere with the illumination, although an electric light with a good frosted globe will here answer the purpose.

As it is not possible to have the patient's eye focused upon any one spot so that the surgeon can get the macular illumination, it will be necessary to put himself into that position which will produce the red reflex, and by aid of the drop light as described it is comparatively easy. If there is a deviation of the eyeball the position of the patient may be conveniently changed.

For the correction of errors of refraction under these circumstances the concave mirror will be found well adapted, as the original source of light can be left stationary, and back of the patient's head, re-

membering that all movements of light are then opposite to that of the plane mirror.

It is necessary in this kind of work that preparations in the way of source of light, proper illumination, readiness for darkening the room, assistance for holding the lenses, etc., be made previously so that there is no delay when the opportunity is afforded for the correction.

The accuracy of results will depend much upon the foregoing, the alertness with the mirror, the proper darkening of the room, and a knowledge of the laws governing skiascopy both for the plane and concave mirror.

Although skiascopy is an objective test operated to a certain extent with the patient's intelligence and co-operation, there is an additional feature added to it when used for the correction of refractive disturbances entirely at variance with his knowledge, although perhaps not being as conveniently performed in the sleeping as the waking state.

As this work will be confined mostly to the treatment of these conditions in children, the success will also depend upon the susceptibility of the child to sleep, and annoyance by the light.

Hypnosis may be a successful adjunct in some cases, although children are with difficulty brought under influence.

PAINFUL DYSPHAGIA EVIDENCE OF SYPHILIS.

J. Garel calls attention to the fact that every person who complains that it has hurt him to swallow for the last few weeks, three at least, should be considered a syphilitic and treated accordingly. Syphilis can be diagnosed at once from this one symptom of persistent dysphagia at any stage. It is frequently the first or only symptom recognized by the patient. The pain vanishes with forty-eight hours' treatment with potassium iodide, unless it is due to that extremely rare cause, incipient cancer or tuberculosis of the throat, which can thus be differentiated.—*Semaine Méd.*, July 6, Jour. Amer. Med. Assoc.

ECLAMPSIA.

BY BERTHOLD STEINBACH POLLAK, M. D., OF
POTTSVILLE.

Eclampsia is the bugbear of the young practitioner. It is the complication of labor, which is dreaded by him. Up until the present time we have not been able to discover the etiology of the disease. I hope, therefore, to be pardoned for bringing before this august body a subject that certainly affords sufficient opportunities for discussion. It is a deplorable fact that the records and statistics of American obstetricians and maternities contrast very unfavorably with those of our brethren on the other side of the Atlantic. During the year 1892, the following mortalities were recorded in the largest American maternities:

	Per cent.
Bellevue Hospital, New York.....	46.1
The Philadelphia Lying-in Hospital.	100.
The Boston Lying-in Hospital.....	31.3
The Baltimore Lying-in Hospital...	60
The Montreal Hospital	50
An average mortality of.....	46

Contrast this with the results of Winckel, who reports 92 cases with seven deaths, a mortality of but 7.6 per cent.

G. Veit reports more than 60 cases with but two deaths, a mortality of 3.5 per cent.

In a Berlin maternity, 46 cases were treated with but six deaths; two of these, however, were due to complications, making the mortality of the convulsions 8.5 per cent.

Winckel states that in the last decade in Germany the mortality of eclampsia has been between 7 and 10 per cent.

With such statistics staring one in the face, a chance for improvement is apparent. While it is the object of this paper to discuss the principles of treatment, it will be necessary to inquire into the etiology and pathology. We are forced to admit that, as yet, we have no positive proof as to its cause. We are prepared at this time to say that it is not hysterical, epileptic, or apo-

plectic. Furthermore, we can positively assert that it is only produced in the human economy in the pregnant and puerperal state. It is possible that these convulsions are produced by toxines acting as an irritant on the cerebro-spinal system and thus producing reflexes which excite the convulsions. The kidney is always regarded with suspicion, and is invariably looked upon as the cause of eclampsia. As the kidneys are the eliminators of these toxines, their failure to do so may produce symptoms which are unmistakable.

What are the premonitory symptoms that should lead us to suspect the oncoming of this dreaded complication? There are three symptoms that I have observed in all the cases which I have seen; namely, epigastric pain, headache, and disturbance of vision. The first may be absent, but, says Bayley, when it is present and becomes very severe and continues, one can be certain that an attack is imminent. The headache is usually frontal, rarely occipital. The disturbance of vision may be simply asthenopia, or amblyopia, or diplopia, and even absolute blindness has been observed twenty-four hours before fatal eclampsia at the fourth month of pregnancy. Another case became amaurotic during labor. This patient had albuminuria for several days, the amaurosis continued several days after the delivery, and then gradually disappeared.

Other important signs are local and general edema, and scanty urine, which is very often albuminous. Renal insufficiency, either in quantity or in quality, or both, is an almost universal accompaniment of the pre-eclamptic state. Indeed, anuria is often a forerunner of the fits. The kidney itself may be in a healthy state, but performing its duty in a faulty manner.

The degree of intoxication regulates the severity of the attack, while the nature of the soil, in which the toxic elements are sown, governs the qualities of the seizure. It is difficult at the present time to fix, or

differentiate precisely, what these mysterious toxines are. It is possible that they originate in large groups from the gastrointestinal tract, either the result of putrefaction or waste, that they enter the blood in quantities too large for the kidneys or the other emunctories to eliminate.

The presence of albumin in the urine should always put us on our guard. However, there are many women whose secretions are full of albumin, yet they escape the eclamptic seizure. Again, eclampsia will occur in women where no albumin has been noticed.

I will not discuss the various phenomena, nor shall I speak of the influence of eclampsia upon the uterus or foetus. The microbic theory is at the present time in its infancy, and therefore, without taking up any more of your time, I shall take up that part which deserves the most careful consideration, namely, treatment.

Dealing with a condition supposedly due to toxines, neither the origin of which nor modus operandi being fully understood, we must, step by step, reason out theories for procedure. We find a woman with severe headache, scanty urine, diminished urea excretion, possibly cyanosis, coma or semi-coma. The first symptoms point to the pre-eclamptic state, while the latter belong to true eclampsia. The patient may be anaemic or plethoric; she may be young or old, a primipara or multipara, and the symptoms correspondingly moderate or grave. The eclamptic seizure may be antepartum, intrapartum, or postpartum. All the facts will necessarily modify the details of the treatment.

For purposes of convenience the treatment of eclampsia may be divided into two general classes, the medicinal and the obstetric. Another classification may be the prophylactic and curative.

It is the preventive treatment that merits the practitioner's undivided attention. It is the field and place for his ingenuity. It is here that the physician makes a lasting im-

pression on his patient. The local oedema, the presence of albumin in the urine, should lead us to suppose that eclampsia is to be considered. It is here that the use of proper diet and hygiene are indicated. An exclusive milk diet, varied in favorable cases with vegetable soups, should form the menu of the patient. The daily hot bath, with slight gymnastics and graduated exercises and plenty of fresh air, are additional factors in the treatment. To assist the sluggish bowel, calomel, jalap, and the like are useful. Diuretics and diaphoretics may be used in large quantities to assist the kidneys and other emunctories of the body in eliminating the rapidly-increasing toxins. Potassium salts are contra-indicated, as they tend to diminish the formation of the red blood corpuscle.

The first indication of treatment is to control the convulsion. Chloroform can be considered the drug for that purpose. This, at first, was considered a specific for eclampsia. Charpentier reports 63 cases treated with chloroform alone with but seven deaths. On the other hand, the mortality from this treatment, in his hospital work, was 50 per cent. It is very doubtful whether, at the present time, any would be willing to rely on this single drug.

Chloral has many advocates. Charpentier prefers it above all other drugs, and presents statistics that justify his preference. (One hundred and fourteen cases with a mortality of $3\frac{1}{2}$ per cent.) This drug must be given in large quantities, to be effective. As the patient is unable to swallow, this drug should invariably be used by enemata. In one of my cases I have given two and a half drachms, but larger quantities are on record.

Veratrum viride seems to be the American favorite. Jewet, of New York, reported before the American Gynecological Society, in 1887, 32 cases of eclampsia treated by this method with a mortality of 18 per cent. This drug, however, is regarded dangerous by some authorities.

Morphine—Older statistics on this method of treatment give a mortality of 57 per cent. Recently G. Veit reported his plans for giving morphine in convulsions, with results so striking as to arrest the attention of the medical world. In more than 60 cases there were but two deaths—the lowest death rate yet attained by any plan of treatment. He gives this drug in very heavy doses and has administered, hypodermatically, as much as three grains in four to seven hours.

Venesection—Phlebotomy is gradually falling into disfavor. There are, however, cases in the pre-eclamptic state, where there is either a condition of marked cyanosis, or a full artery at the wrist, where bleeding seems to be called for. It is just as important to bleed a plethoric woman in eclampsia, as it is in a case of pneumonia under similar conditions.

Diaphoresis and Catharsis—This method of treatment must be employed in every case, no matter what other treatment has been instituted. Even Veit, the sturdiest advocate of the single drug treatment, who used to tell his clinical audiences that they should never let their eclamptic patients die, after losing two out of six, in a single year, now admits that the eliminative method must be employed in addition to his favorite, morphine. My own practice is to employ a wet pack, to excite sweating, and to use croton oil to move the bowels. As I have already stated in a previous part of my paper, the use of compound jalap powder, calomel, concentrated salts solution, and elaterium are indicated.

Supposing, however, that all these methods have failed, what is to be done? It is a fact that drugs often make but little impression on the gravid womb. Very often the continuous use of chloroform, chloral and other medicaments, have caused the death of the foetus in utero. Quite frequently the foetus has succumbed from prolonged intoxication of the mother's blood. Therefore, the next step is the speedy evacuation of the uterus. This, however, is a much

easier matter with a dilated os, than when the same is hard and contracted. It is not necessary to mention that this must be done under the strictest antiseptic precautions. For the most part, in ante-partum eclampsia, dilatation should be first practiced with steel dilators, if need be, then manual stretching of the os and cervix will accomplish the work to the best advantage. Caesarian section should be reserved for extreme complications; as, for instance, in cases of deformed pelvis, or it may be done in such cases where the mother's life cannot be saved and it becomes a question of life or death to the foetus.

A careful analysis of the different plans of treatment justifies me in saying that chloral, with diaphoresis and catharsis, chloroform, with occasional venesection, will prove to be the most reliable method of procedure.

Finally, let me say that medicinal treatment is very often delusive, and if relied upon exclusively is fraught with danger to mother and foetus; whereas in the prompt induction of labor, we not alone aid nature in her efforts, but have a rational application of the science of obstetrics in dangerous cases.

(I must thank Dr. Barton Cooke Hirst, of Philadelphia, for the statistics which have helped me in the preparation of my paper.)

THE MINUTENESS OF BACTERIA.

In order to convey some concrete idea of the extreme minuteness of bacteria it has been calculated that if a postage stamp seven-eighths of an inch long and three-quarters of an inch wide (22.2 mm. by 19.05 mm.) were covered by a single layer of the typhoid bacteria, placed end to end and side by side, 500,000,000 bacteria would be required.—Bulletin of Pharmacy.

Patients who struggle violently while being anesthetized should receive extra care and attention. They are said to represent a large percentage of those who succumb while under the influence of an anesthetic.

EXTRA UTERINE PREGNANCY, WITH REPORT OF CASES.

By G. D. NUTT, M.D., of Williamsport.

The following group of ectopic gestation, which has come under my observation during the past four or five years, present some features of unusual interest, and may add to the sum of our knowledge of this interesting phenomenon of pregnancy.

This abnormal form of gestation, is of interest to the obstetrician and general practitioner, not so much from its frequency, as from the obscure and dangerous symptoms that accompany it.

The last few years has thrown much light on the causation of tubal pregnancy, and has greatly aided the ability of the physician to diagnose this abnormal condition in its earliest stages.

Among the most prominent symptoms are: A history of previous pelvic inflammation or tubal infection and adhesions, irregular menstruation period, possibly passing some days over the regular time, pelvic pains, accompanied with more or less symptoms of pregnancy, nervous manifestations, followed by irregular flow or hemorrhage, with possibly casting off of uterine decidua. These with the gradual formation of tubal enlargement, with tenderness and pain, without fever, point strongly to tubal pregnancy.

If rupture occurs, we have the symptoms of shock, weak, rapid pulse and internal hemorrhage.

My experience has been that it is almost as easy to diagnose a case of tubal pregnancy as that of appendicitis; not but what we have obscure cases complicated with other pathological conditions, just as we have in the latter diseases; but a careful examination under ether, where most of the above symptoms are present, will enable us to verify our diagnosis.

There is, perhaps, more unanimity of opinion among the profession in regard to the treatment of this affection than any other

abdominal disease. However much we may hesitate to recommend an operation in certain forms of appendicitis or other abdominal lesions, in ectopic gestation we know the results if left to nature are more uniformly dangerous, and that an operation is by far the best way to forestall fatal hemorrhage. The absence of infectious germs and the tolerance of the system to the loss of blood, makes it one of the safest and most successful operations in abdominal surgery. Whether it is best to operate through the abdominal or vaginal route may be a question, but from my limited experience, I fail to see how an operation through the vagina, unless in the very earliest stages, could be done with any degree of success.

In all abdominal operations, our effort should be to do as neat and complete an operation as possible, cleansing the parts from all foreign and septic material, breaking up all adhesions and cover all new surfaces with peritoneum, and when necessary flush with normal salt solution. This is especially indicated in the subject under discussion, as the blood, if left, is such a good culture medium for septic germs.

As very few cases are brought to the attention of the surgeon before rupture and hemorrhage in abdominal cavity has occurred, and it seems to me in no other way can the cavity be so thoroughly cleansed and the diseased portion removed as through an abdominal incision.

Case No. 1. Jan. 15, 1893, Mrs. W. H., age about 35, married, came to my office to consult me about an abdominal pain she had the night before. While waiting in front office, she was taken with a sudden and violent pain in right groin. She showed decided symptoms of shock, weak and rapid pulse, cold, clammy perspiration, and an intense look of suffering. The attack resembled that of appendicitis with rupture, and was so considered at first, not only by myself but another physician who was present. As soon as she could be relieved, she was re-

moved to her home. The following history was obtained: Had been married five years and had never been pregnant. There was a history of some pelvic inflammation ten or twelve years previous. Since then she had always been regular and felt perfectly well. A few months before she had consulted a physician about her sterility, and received some treatment, with dilation of the cervix. She missed her changes in December, about the 25th, and from that time until January 14, felt perfectly well. Following the attack she had in my office, she suffered almost continuous pelvic pains, with many symptoms of hysteria. The pelvic organs were so sensitive that no satisfactory examination could be made. About January 25, after violent pains, she passed a membranous cast of the uterus, but the pains continued. January 30, with the assistance of the late Dr. J. P. Connelly, she was etherized, and a large mass was found in the right groin pushing the uterus to left side and filling the cul de sac. We diagnosed ectopic gestation, and an operation was advised. She was removed to the Williamsport Hospital, February 5, laparotomy was performed, and a large mass of clotted blood found in the abdominal cavity. There was a right tubal pregnancy that had ruptured. The child could not be found, but the membrane and remnant of cord still remained. The mass was enucleated, and the cavity thoroughly washed out. The left ovary and tube were bound down with old inflammatory adhesions. These were removed, and the cavity drained. There was a free, bloody discharge for almost a week through drainage tube. She had rather a severe attack of gastritis, due no doubt to the opiates she took prior to the operation. In two weeks the patient was removed to her home. With the exception of a large abdominal hernia, due to long continued drainage, she is now entirely well, and able to do her own work.

Case No. 2. A few weeks later was called in consultation by Dr. Bickell, of Jersey

Shore, to see Mrs. L. K., age 42, mother of four children. February 20, 1893, while returning from the doctor's office, she took a violent abdominal pain, followed by menstrual flow. About a week later I was called in consultation. Her symptoms and condition were so like the previous case that I made no hesitation of diagnosing a case of ectopic gestation. She was removed to the Williamsport Hospital, and operated on March 20. A large mass of old clots was found in the abdominal cavity. The gestation had occurred in the extreme end of right tube. The left tube was also diseased, with adhesions, and was removed. Her recovery was rapid, and she was discharged in three weeks.

Case No. 3. February 14, 1893, was called in consultation by Dr. L. Schneider to see Mrs. P., married, mother of one child. She had been complaining for the past three or four months of pelvic pains, irregular menstrual flow, and a fullness in the right iliac region, with no fever. Saw the case some days later, and found the tumor increasing, pushing the uterus to left side. A diagnosis of ectopic gestation was made, and advised an operation. March 2, with the assistance of the late Dr. J. P. Connelly and Dr. L. Schneider, the abdominal cavity was exposed and a large tubal pregnancy was found, filling the entire pelvis. The mass was removed entire, and although the patient lost considerable blood, her convalescence was rapid, and her recovery perfect. The child was about four and a half months of gestation, and the sac was unruptured, except a small clot on its upper surface.

Case No. 4. Mrs. R. D., sent to hospital by Dr. McAllister, who thought she was suffering from tubal pregnancy. She gave a history of obscure abdominal symptoms extending over a period of six or eight weeks. Examination revealed a large mass in right iliac fossa, soft and non-fluctuating.

September 17, 1894, operated and found a large blood clot in left side partially en-

cysted, and at the lower side of clot was a ruptured tube with evidence of a tubal pregnancy, although the child could not be found. The right tube normal. Recovery uneventful. Discharged in three weeks.

Case No. 5. October 5, 1895, saw Mrs. H. S., in consultation with Dr. Chas. Schneider. Had a child by previous husband eight or ten years before. A month before had an irregular period. October 1st, had a sudden attack of crampy pains while at market. Three days later was taken in the night with pain all over abdomen, became weak, pale, bloodless and symptoms of shock or collapse. October 5, found abdomen very much distended, dull and tender on pressure. She looked pale, bloodless, and almost pulseless. Applied ice over pelvic organs, and gave stimulants and strychnine. October 6, operated. Found the entire abdominal cavity filled with blood clots. There was a left tubal pregnancy which had recently ruptured with membrane and after-birth intact, but child could not be found. The case made a good recovery.

Case No. 6. A few days later was called by Dr. C. M. Adams to see Mrs. J. E. S., whose condition and history was almost identical with previous case. The doctor had already diagnosed ectopic gestation, with rupture. October 19, did a suprapubic operation, removing a large quantity of clotted blood. The ruptured tube and ovary was removed, with child still attached to cord. Recovered without a bad symptom.

Case No. 7. November 2, 1896, operated on Mrs. R. C. P., a patient of Dr. Adams, for unruptured left tubal pregnancy. She had a miscarriage two years before, and had a tubercular history. Her recovery was slow, but otherwise did well.

Case No. 8. Mrs. J. McC., a young married woman was infected by her husband, and had a miscarriage. For two months before operation, she flowed almost constantly, suffering with pains in left iliac fossa. Her physician, Dr. Adams, noticed an enlargement of left tube, which gradually increas-

ed. Had diagnosed ectopic gestation. September 2, removed a small tubal sac near the uterine end. There was blood in the peritoneal cavity, and the right tube and ovary was diseased. Both tubes and ovaries were removed, and her health has been first class ever since.

Case No. 9. Miss L. S., patient of Dr. W. E. Glosser, single, age 26. Had been operated on in 1896 for movable kidney, displaced by the result of a fall. Her health was greatly improved, and she was feeling remarkably well until January 21, 1898, when she was taken with violent pains in right groin near the region of appendix, followed by a continuous menstrual flow. Gave history of a previous miscarriage. The pain and tenderness continued without fever, but with a great deal of nervous symptoms. February 17, she was etherized, and we found a distinct enlargement in right tube, high up, and diagnosed the case as one of tubal pregnancy. February 21, operated and removed considerable clotted blood and a ruptured tubal sac. At the present time she is well as ever and able to work.

These few hasty and imperfectly reported cases of ectopic gestation may be briefly summed up as follows: Abdominal operation for this trouble is a comparatively safe one. Notwithstanding the large quantity of blood lost, there was but little shock, and they all made good recoveries. The freedom from complications, rapid recovery and subsequent good health was no doubt due to the non-infectious character of the trouble. All the above cases were operated through the abdominal route, and could not have been so successfully handled in any other way.

Rupture occurred in seven of the cases on or before the second month. One sac was intact at four and a half months, and the other at the time of operation, near second month.

Gestation occurred in four cases in right tube, and five in left tube. They all gave

history of either prior tubal infection or previous miscarriage. One case was evidently due to dilating the cervix for sterility in an old case of tubal adhesions.

DISCUSSION.

Dr. G. B. Massey, Philadelphia: I was pleased to hear that all of these cases were easily operated upon and with success. I agree with the reader's conclusions with one or two reservations. I do not think that all of these cases should be treated by radical operation. There is a feeling on the part of a number of surgeons in this country that a few of these cases should be treated by electricity—cases where there is rupture into the broad ligament only, or when diagnosed before rupture, prior to the fourth month. This narrows it down to a very few cases. I believe there was one case in the list which might have been treated this way. All the rest were proper cases for operation. Although the cases in which the electrical treatment is proper are few, yet there is a sufficient number to warrant us in searching for these conditions. The radical effects of the operation are so great that we should always seek for a method which will be successful without the alternative of castration. You can easily determine these cases by examination under ether. If after the shock of the original pain, or in the case of discovery of a slight enlargement of the tube without the shock of pain, which, however, is rare, if at that time, careful examination under ether shows that the broad ligament retains its bulging character, showing little or no free hemorrhage, then there is an opportunity to use electricity.

If it is ruptured into the broad ligament there can be no abdominal hemorrhage. One other question arises in this connection and that is the increasing number of these cases, which are in my opinion due to stretching of the womb, and this operation preceded one of these cases. It preceded two cases in my own experience.

Dr. E. E. Montgomery, Philadelphia: Very early in my practice I reported a case of ectopic gestation cured by electricity. My later experience has led me to believe that rupture had occurred prior to the application of the electricity, and that the patient would have been just as well had the electricity never been applied. In all my experience I have seen but one case in which I was able to make definite, diagnosis of ectopic gestation prior to the rupture of the sac. In that case the examination required to confirm the diagnosis of ectopic gestation preliminary to the use of electricity would more than likely have caused the death of the patient, as she did die as a result of an

examination. I did an operation as soon as I could secure permission, but the condition was such that she died from the shock. Now, in these cases that have been treated by electricity, many of them have been cases in which the foetus has been dead.

In regard to the plan of operation, I agree with Dr. Nutt that an operation should be done in all cases, although there are probably a number of patients enumerated in his report in which recovery would have taken place if no operation had been done. I say that I advise operation for the reason that although this clot may become organized and absorbed, it does so at considerable risk to the patient of danger from infection and the development of secondary conditions.

Even in those cases where it is absorbed and the patient recovers, there is more exudation, more thickening and infiltration than if an operation had been done.

Now, as to the vaginal or abdominal route, if the patient is bleeding, I should much prefer to open the abdomen in order that I might see the exact condition of the parts and secure the bleeding vessel, but in chronic cases where the hemorrhage has existed for some time, a large accumulation has occurred, but active bleeding has stopped, the patient will have a shorter convalescence and the operation be attended with less danger if the vaginal route be selected.

Dr. C. P. Noble, Philadelphia: I suppose discussion on all of the preceding papers is in order. There is one point in regard to eclampsia which my own experience bears out and that is the administration of pilocarpine may be dangerous from the production of oedema of the lungs, and I think this drug should be used with great caution. Among other remedies mentioned I did not notice a recommendation of salt solution. I think this is a valuable adjunct, used hypodermically or by transfusion.

With reference to ectopic gestation I am largely in accord with Dr. Nutt. I agree with Dr. Montgomery that some cases will get well without operation and the history of the past shows that many of these cases did recover under the diagnosis of hæmatocele; but I also entirely agree in the wisdom of operating even in this class of cases. Under the expectant plan of treatment the period of convalescence may extend over a year. This period is very materially shortened by operation. I am entirely in accord with Dr. Nutt as to the proper operation; except that I think in suppurative cases the vaginal route is the safer one, offering much less danger of subsequent complications.

Dr. Mordecai Price, Philadelphia: I might il-

lustrate what I think about electricity by a little story. At the time of the earthquake in Charleston it happened to shake the negro church up pretty hard. In the course of two or three weeks a sister met one of the other sisters and asked: "Why have you not been to meeting?" She replied, "I don't think I will go any more." "Why?" "I don't want to fool with it any more." That is the way I feel in regard to electricity in these cases; I do not want to fool with it. It is unnecessary. It is murder nine times out of ten. I have known of a number of these cases that bled to death. That is the history of most of these cases. It is a most dangerous procedure indeed. I consider a Spanish bomb shell as a far safer thing to meddle with. No treatment except the knife is safe when your diagnosis is once made, and I think the only route should be the abdominal. The vaginal route is simply dirty; it is unsurgical. Go into the abdomen and there you can see what you are doing and you can there deal with any emergencies in an intelligent manner.

Dr. G. M. Boyd, Philadelphia: The paper of Dr. Pollak on eclampsia was exceedingly interesting. There is probably no obstetrical subject of greater importance to the general practitioner, and I think it deserves a little further discussion.

Stress should be laid upon frequent urine analysis, and I think the secret of preventing this most serious complication in obstetrical cases lies in the careful watching of patients throughout the period. The eclamptic seizure seems to be best treated with chloroform. I think it is wise in all cases of ante-partum eclampsia to empty the uterus rapidly, and the patient should be made to sweat. I would also like to endorse what Dr. Noble has said in regard to the saline injections, distending the bowel—the large bowel—with the normal salt solution or by hypodermic injections. It seems to me that we accomplish in rapid delivery what we accomplish in blood letting.

I had recently two cases of ectopic gestation. The cases presented themselves a month or more after the primary rupture. Vaginal operation in these cases would have been exceedingly difficult because of the extent of the adhesions—omental and bowel. In both cases the diagnosis was obscure and in one case it was impossible to make diagnosis before the operation.

Dr. John C. DaCosta, Philadelphia: I cannot agree with Dr. Massey as to the electric treatment of extra-uterine pregnancy. Some years ago, Dr. Joshua G. Allen, of Philadelphia, reported two cases treated with electricity with recovery of the women. This was probably the

starting point of this treatment, and the following of this treatment has probably done much harm, especially in this day when we know how much more surely and safely such cases can be handled by operation.

As to the character of the operation, that can only be determined by the case itself. Dr. Montgomery's mode of vaginal operation may do well and safely in such hands as his, but would it do in the hands of the average operator? I mean the man who, without special training, is called upon suddenly to operate to save life. The case Dr. Boyd quoted was one in which death would surely have ensued if the vaginal route had been selected. He asked me to see the case, and I was present at the operation. The abdomen, when opened, was full of blood and dense adhesions, and the woman would have been dead before the operation was finished if any but the abdominal route had been taken.

Again in a late case of my own. I am sure it was less than one minute from the time of the first cut until I had grasped the bleeding vessel which spurted up like a fountain from the top of the tube. I have never seen a pelvis with more blood in it than this one. What would have been her fate if any but the abdominal route had been taken? I believe, like the old Scotch surgeon, in seeing where the blood comes from.

Dr. G. B. Massey, Philadelphia: I want to say that the Spanish bomb shell thrown at me has done no harm. Statistics will bear me out in what I have said regarding electricity. There is a very singular fear of the electric treatment on the part of some members of the medical profession, and the statement has been made that many of the cases treated in this manner would have recovered without any treatment. There is this much to be said in favor of electrical treatment, it does not radically unsex a woman.

Dr. T. C. Detwiler, Lancaster: I would rather be an unsexed woman than a dead woman.

Oil of Turpentine in half-ounce doses is recommended for hemorrhage in typhoid fever by Dr. Jacob Price, of West Chester, in the *Philadelphia Polyclinic*. In a case cited, he gave the above dose three times, at short intervals, apparently arresting the bleeding.

Jacobi advises that a little salt should be added to cow's milk intended for infants, in order to prevent too solid coagulation.

GYNECOLOGICAL REFLEXES.

By J. M. BALDY, M.D., OF PHILADELPHIA.

The object of these few notes is simply to offer a protest against that teaching which has become so generally accepted ever since reflex symptoms were first attributed to cervical lesions by that most eminent gynecological authority, T. Addison Emmet. Emmet taught that the scar tissue, which often resulted from nature's attempt to repair a lacerated cervix, and which is usually found in greater or less quantity in the angles of the tear, resulted in a certain definite set of general symptoms. His observations were valuable and lead to a complete revision of our methods of treatment. Lacerations were recognized and repaired, and the old methods of treatment by application of nitrate of silver fell into disuse.

Emmet's authority carried so much weight with it and the difference in results obtained by following his recommendations was so marked that the older methods soon fell into complete disrepute. His disciples became numerous and enthusiastic, and as is usually the case "out-Heroded Herod." All sorts and manners of symptoms began to be attributed to pelvic ailments, and lately it would seem that "reflex symptoms and pelvic disease" have become synonymous terms. A woman only has to develop a chronic train of symptoms of almost any kind, together with a pain in her abdomen, more or less constant, or some irregularity of her menstrual flow, to be put in the unfortunate catalogue of gynecological patients, to be submitted to an endless amount of local treatment or to be sent to some willing and not over scrupulous operator.

Gynecological patients are common enough in all conscience without confounding them with neurasthenics. No more harmful impression in medicine prevails today than this one of "reflex symptoms." They are considered exceedingly common—as a matter of fact, they are rare. I do not

wish to be understood as holding that a woman suffering from a gynecological lesion cannot suffer from general, indefinite or definite symptoms. We are all well aware that pain, long continued, dragging and nagging, will wear so on the nervous system as to finally completely upset it—the nervous system being upset the organs dependent upon it become affected, neuralgias, indigestion, headaches, and all the interminable train follow. If these be accompanied by local pelvic symptoms, what more simple than the diagnosis?

But first let us remember that in neurasthenics these same symptoms exist, and granted an upset of the nervous system no dependent organ is so apt to cry out as one of the pelvic organs. Go through your insane hospitals, and how universally do you not find menstrual disorders. Think for a moment of your cases of nerve-exhaustion, and how many suffer from pelvic symptoms; and so throughout the whole list. As a matter of fact, given a case of neurasthenia you have pelvic and menstrual disorders as a matter of course.

On the other hand, how many grave pelvic diseases have reflex symptoms as a prominent factor? Uterine and ovarian cancers die and we see little or nothing of reflexes. Fibroid tumors of the uterus exist and their bearers suffer from no unusual reflexes. Extra-uterine gestation appears and disappears, and reflex neurasthenias are unknown. Ovarian cysts, dermoids, vaginal cysts, fistula and an innumerable number of other lesions come and go, and no reflex symptoms. As a matter of fact, all the gravest lesions coming under the hands of the gynecologists are comparatively free from reflexes, but as soon as we come to laceration of the perineum, laceration of the cervix, congestion and chronic inflammation of the ovaries (comparatively insignificant lesions), we are faced with this great bugbear, "reflex symptoms." I say chronic inflammation of the ovaries, for again we have a marked contrast in this respect in the acute

and chronic pelvic inflammatory diseases of the uterine appendages due to septic or gonorrhœal infection—we hear little of reflex symptoms in these more serious conditions. No; reflexes are left to account for all the ailments in a woman's body for which we cannot account in any other way.

Lacerations of the cervix and perineum have their own local symptoms, but these symptoms are local and remain local, excepting in so far as they can affect a woman generally by breaking down her health in a definite and easily understood manner—reflexes enter little or not at all into the case. We leave scar tissues in complete laceration of the perineum—those central tears which go through the sphincter ani muscle into the bowel—we are not troubled with reflex symptoms in these conditions, however. When the whole subject is fairly and squarely looked at it is perfectly patent that the reflex symptoms which in the past we have been attributing to minor gynecological troubles are, in most instances cases of neurasthenia, who happen to have some insignificant pelvic lesion, one which in very many cases will be found on investigation to have existed for years without causing any trouble, and in fact without the patient being aware of its existence. But let that patient once become neurasthenic and tell her of the existence of the pelvic lesion, and what a change!

A short time since I listened to the reading of a learned paper on this subject in which the importance of pelvic reflexes was much emphasized. A diagram was exhibited showing the intimate connection between the pelvic organs and the other viscera of the body—the heart, stomach, liver, kidneys, brain, etc.—through the medium of the sympathetic nervous system. The chart was true anatomically, and as the author of the paper traced the connections from one organ to another the explanation of many general or reflex symptoms seemed plainly established. But a little deeper investigation of the subject must

raise many doubts. Why, for instance, where the womb or ovaries are diseased should the stomach be affected, or the heart be upset or the kidneys or brain behave badly, when the womb stubbornly refuses to misbehave itself in case heart, kidney or stomach disease manifest themselves. I know of no law which forces reflexes to radiate from the womb as a center, affecting everything else in the body, and the reverse not take place. On the other hand, I do know of a law which, when the nervous system has received a bad and lasting shock, may affect any or every organ in the body, the pelvic organs included. In fact, I know of no set of organs which so universally cry out when the nervous system is at fault as the pelvic organs; I know of no place neuralgias are more apt to manifest themselves. Scar tissue exists in all probability in all our bodies at one or more points; do you suffer from indefinite and general, or for that matter particular reflexes on that account? I have looked long for them in my own person, and have failed absolutely to find them. I have looked long for them in my gynecological clientele, and have failed just as often. The symptoms produced by lacerations of the cervix, uterus and perineum are definite and local, and scar tissue and reflexes have little or nothing to do with them. The symptoms produced by uterine and ovarian disease is just as definite and local, and reflexes enter into them only in as much as they would in the same lesions in other parts of the body.

It would seem that the profession has forgotten that there is such a thing as a neurologist, judging from the number of pure neurasthenics who are sent gynecologists for operation; a discrimination which is unfair, but is not as disastrous as for us to forget because a woman is a woman that she has other organs in her body besides her pelvic organs and their adjuncts, and that she is just as liable, nay, more liable, to suffer on account of other organs (particularly her nervous system) as are men.

I venture to say that pelvic and abdominal pain oftener means nerve-disease than local pelvic disease, and that when a physician reaches the point that he can only attribute a woman's sufferings to pelvic reflexes, he has arrived at that stage when a consultant will be of great aid to both himself and his patient.

DISCUSSION.

Dr. G. B. Massey, Philadelphia: I merely want to say that I am very glad the reader has come around to the opinion that some of us took some years ago and that is, that the man who calls himself a gynecologist must be something more than a surgeon. The gynecologist must, to a degree at least, enter the province of the neurologist. He must recognize the fact that a woman is more than a mere machine. But there are members of the profession who carry this matter of reflexes a little too far. There are reflexes which do not come from scar tissue. Reflexes may come from a large, dragging, inflamed uterus, just as they come from eye strain or from any other strain on the nervous system, with resultant neurasthenia. We must not go too far in their denial, nor must we consider that a little scar tissue is such a terrible thing in the uterus and perfectly harmless everywhere else; it is the inflamed uterus that gives rise to the reflex manifestations, and we should not deny the reflex merely because a useless operation on the healed tear has not relieved the patient.

Dr. Mordecai Price, Philadelphia: So far as reflexes are concerned and neurasthenia, we do not know anything about them, but I want to call attention to one fact in regard to Dr. Baldy's paper and that is this. I do not know why, but I do know that an operation in the pelvic cavity, such as removing a sloughing fibroid will result in an entire disappearance of all nervous symptoms four times out of five. You would think a miracle had been performed. I ask, Why is this? Are there reflexes? Are they evidences simply of a broken-down condition? I have known a scar in the cervix to set a woman almost wild, and its removal give almost instantaneous relief. I firmly believe that 50 per cent. of females confined in insane asylums were brought there from this cause, and that many might still be cured by an operation. But as to what neurasthenia is, I do not know. Whenever a doctor has a case which he does not understand, he calls it neurasthenia.

Tragacanth is the pith of a tree which has undergone mucilaginous transformation.

THE TREATMENT OF PROLAPSUS UTERI.*

BY X. O. WERDER, M.D., OF PITTSBURG.

Prolapsus of the uterus more than any other uterine displacement properly comes within the domain of the surgeon. While a retroflexion or version can ordinarily be held in normal position by a well-adjusted pessary, which can be worn without harm or discomfort to the patient for months and years with complete relief of all symptoms produced by the malposition, the anatomical relations of uterus and vagina and their pelvic supports are so changed in prolapse of these organs, that their relation within the pelvic cavity by means of supports is not only attended by great difficulties, but is frequently impossible.

The elasticity and tonicity of the vagina and the retentive power of the perineum and vulvar orifice, so essential to the support of pessaries, is so reduced or entirely destroyed, that in order to hold up the more or less inverted vagina and the protruding uterus, pessaries are required with a point of fixation outside of the vagina; these consist of rings or cups attached to a belt or bandage by means of a stem. That these are not only a source of annoyance, but frequently cause more or less local irritation, and even extensive ulceration of the parts every practicing physician knows. Even where we succeed in retaining the uterus by means of a ring or an egg-shaped pessary, we do so by unduly distending the upper half of the vagina, thereby destroying what little elasticity has remained in that part of the vaginal canal, making in the course of time larger sizes of these instruments necessary, until the time arrives when none of them will hold. Or they may, by the constant pressure on the surrounding structures, cause serious ulceration and destruction of tissue and sometimes dangerous infection. I would, therefore, restrict such palliative

treatment which is, to say the least, very unsatisfactory at best, to cases which either on account of advanced age or serious constitutional complications cannot undergo the operative treatment necessary without considerable risk. All others, especially the younger patients, should be urged to submit to operation which not only has proved so eminently successful in curing one of the most distressing and loathsome conditions in women, but has become almost free from any danger.

The operative treatment has within recent years undergone many modifications. While formerly we relied entirely upon plastic operations on the vagina and uterus done with the view of reconstructing the relaxed or inverted vagina and reducing the size of the heavy hypertrophic uterus by means of trachelorrhaphy when the cervix was lacerated, or an amputation when it was much enlarged and elongated, experience has shown that the results, at least in the complete vaginal and uterine prolapse, have not been uniformly successful. Even the closure of the vagina by means of Le Fort's operation, recommended in extreme cases in women after climacteric period, has met with many disappointments. It is only since we have adopted a combination of operations, consisting of building up a firm, resistant vaginal canal by means of several plastic operations and placing the uterus in a forced ante-position, giving it at the same time a firm point of fixation at the fundus that we have finally perfected a method of operating which, in my opinion, will overcome the worst forms of uterine procidentia with very little risk to the life of the patient. In fact, I believe that these operations, which can and should be performed at the same sitting, give the patient not only as much security against recurrence, but they are safer than hysterectomy, while at the same time they leave the organs and their functions intact.

That the removal of the uterus alone does not cure the prolapse of the pelvic organs, is of course, evident, because the womb it-

*Read by Title.

self is rarely the primary cause of the downward displacement; it usually becomes involved secondarily through the action of the weakened pelvic floor and the inverted vagina. Without some extensive plastic operations the latter will continue to protrude as before with the difference that the hernial sac contains intestines, instead of the uterine body. The indications, therefore, for a hysterectomy in uterine prolapse has been limited by me to such cases in which the uterus itself is so seriously diseased as to require its removal per se; these are cancer and fibroid tumor, to which may be added extensive disease of its adnexa, though even here I believe ventro-fixation ordinarily preferable to hysterectomy. In only one case of procidentia have I resorted to hysterectomy, because the cervix had a very suspicious appearance of malignant degeneration; extirpation of the uterus was combined with extensive resection of the vagina, according to the methods of Fritch. The result was all that could be desired.

The operations essential to a permanent cure of a complete prolapse of the uterus and vagina—and it is of this class of cases I am speaking more particularly—are: 1st, curettment; 2d, anterior colporrhaphy; 3d, colpo-perineorrhaphy, and 4th, ventro-fixation. Each of these I regard as a necessary adjunct to the other, a link to the chain without which the final result will be endangered. In addition to these routine operations the cervix usually requires some operative treatment, which, however, must vary in each individual case. In extensive lacerations repairing the torn surfaces by an Emmett operation may suffice to bring about the necessary involution of the enlarged, heavy uterus; or a wedge-shaped excision of the cervix may have the same effect when it is the seat of extensive erosions with hypertrophy. When the cervix is very much enlarged and elongated a high or super-vaginal amputation is followed by the best results; by that, I mean the enucleation of the cervix from its vaginal attach-

ments and separation of bladder in front and rectum behind sufficiently to enable the removal of one or several inches of the neck of the womb. The vaginal mucous membrane is then attached around the stump by stitching it to the cervical mucosa.

The order in which the operations are performed are: 1st, curettment; 2d, cervix operation; 3d, anterior colporrhaphy; 4th, ventro-fixation, and 5th, colpo-perineorrhaphy.

The operation on the posterior wall of vagina and perineum should be the last step, because after the uterus has been drawn up into the pelvis and securely ventro-fixed, we are better able to judge how much resection the vagina will require.

It should be our aim to do all these operations at one sitting, because we not only save the patient a second anæsthesia, but the result should be better, as each operation forms a part of the foundation, upon the solidity of which the permanency of the cure depends. The safety of the patient, however, requires that anæsthesia should not be unduly prolonged; anæsthesia extending over a period of more than 1½ hours passes the safety-limit, and I have, therefore, made it a rule not to exceed that space of time.

Of the 14 cases whose history has been appended, and which covers my entire experiences in complete procidentia uteri et vaginæ operated upon by the methods described, I was obliged to postpone the colpo-perineorrhaphy in four, on account of some delay during operation; in all others we were able to complete the operations within from an hour and 15 to 30 minutes.

In one case I added to the usual combination of curettment, high amputation of cervix, anterior colporrhaphy, ventro-fixation, and colpo-perineorrhaphy an operation for hemorrhoids by the clamp and cautery method, all within the time specified. In another I was compelled to remove both adnexa for disease.

Though all these patients are hard-work-

ing women at manual labor, in none of the 14 cases has there been a recurrence of the prolapse to my knowledge; in some of them I admit, the time has been too short to be able to speak confidently of the final outcome.

It is not the purpose of this paper to go into the technique of the different operations; there are only a few points that I will briefly refer to. In the plastic operations a common mistake is to make our dissections and denudations not extensive enough. A little experience will easily demonstrate how much tissue should be removed.

Emmett's colpo-perineorrhaphy has given better satisfaction in my hands than any other method tried; I have used it exclusively in nearly all the cases reported. As I regard a secure and firm ventro-fixation of vital importance in the success of this operation, I believe it best to attach the uterus broadly to muscle and fascia, so as to get a strong union between the fundus uteri and abdominal walls.

Alexander's operation, though recommended in place of ventro-fixation, does not seem to me adapted to the treatment of prolapsus uteri; though it justly holds a firm position in the treatment of uncomplicated backward displacements. The function of the round ligaments is to hold the uterus in the position of normal ante flexion, but they are incapable of lifting it up and preventing its dropping out of the pelvis.

REPORT OF CASES.

D 194.

Mrs. S., admitted April 19, 1897, æt. 43, married 14 years; grass widow 12 years; one child, 11 $\frac{3}{4}$ years old. For about a year she had headache, backache, bearing down pains; uterus protrudes from vulva; vaginal irritability, constipation.

Physical Examination.—Marked vaginal relaxation. Uterus prolapsed completely. Hemorrhoids.

Operation.—April 24, 1897. Curettment; high amputation of cervix; anterior colpor-

rhaphy. Ventro-fixation. Perineorrhaphy (Emmett). Clamp and cautery operation.

D 358.

Mrs. P. J. M., admitted Dec. 7, 1897, æt. 36; married 15 years; 5 children, oldest 14, youngest, 8 years. Since birth of first child, bearing down pains; within the last year has been getting much worse. For some time, burning pain in right side. For six months, cystitis. Micturates 10 to 15 times a day.

Physical Examination.—Cystocele, rectocele, marked relaxation of vaginal outlet. Retroversion. Complete prolapse. Adnexa normal.

Operation.—Dec. 11, 1897. Curettment; high amputation of cervix; anterior colporrhaphy; perineorrhaphy; ventro-fixation.

D 309.

Mrs. Chas., admitted October 15, 1897, æt. 22, married 8 years, 4 children, 4 miscarriages. Present trouble: Four and one-half years ago, after second child, got up on tenth day. Uterus protruded at that time. Loss of support, dragging pain and dyspareunia since then.

Physical Examination.—Marked bilateral, cervical laceration; complete prolapse of uterus; cystocele, rectocele.

Operation.—October 18, 1897. Curettment; anterior colporrhaphy; ventro-fixation; perineorrhaphy.

D 260.

Mrs., admitted July 22, 1897, æt. 37, married 20 years, 6 children, youngest 8 years. Present trouble: While moving bed three years ago, strained herself and from that time uterus has protruded from vulva. Loss of support, dragging pain, but able to be around to do her work.

Physical Examination.—Uterus prolapsed, cervix very large, perineum relaxed, cystocele, rectocele, ovaries somewhat enlarged.

Operation.—July 24, 1897. Curettment; high amputation of cervix; anterior colporrhaphy; celiotomy; bilateral salpingo-

oöphorectomy (closed tubes and cystic ovaries). Perineorrhaphy.

C 247.

Mrs. M. J., admitted July 3, 1895, æt. 57.

Physical Examination.—Uterus projecting over half its length from the vagina; its outer covering hard and like skin; great relaxation of perineum.

Operation.—July 6, 1895. Curettment; anterior colporrhaphy (kangaroo tendon); ventro-fixation. Intention was to do perineorrhaphy also, but prolonged etherization made her too weak. This was done subsequently.

C 308.

Mrs., admitted October 16, 1895, æt. 39; 4 children, youngest, 5 years. Present trouble: Loss of support, dragging pain and tenderness in sides and back; frequent micturition. All symptoms much intensified since last childbirth. Incontinence, if on her feet long at a time.

Physical Examination.—Bad perineal laceration. Complete prolapse of uterus.

Operation.—October 16, 1895. Curettment; anterior colporrhaphy (buried catgut). Ventro-fixation; perineorrhaphy (Emmett).

C 344.

Mrs. H. A., admitted November 14, 1897, æt. 22; one child 16 months ago; convalescence prolonged. Present trouble dates from difficult labor of three days' duration; noticed "falling of the womb" when she got up first. Uterus protrudes whenever she gets into erect position; constant dragging pain; constant dripping of urine; excessive leucorrhœa.

Physical Examination.—Marked laceration of perineum; complete prolapse of uterus.

Operation.—November 16, 1897. Curettment; amputation of cervix; anterior colporrhaphy; ventro-fixation; perineorrhaphy (Emmett).

D 135.

Mrs. S., admitted January, 1897, æt. 34,

married at 14, 12 children, last one year ago. Lacerated at first labor. Last was breech and perineum again torn badly. Complete prolapse since that time.

Physical Examination.—Uterus large, retroverted, prolapsed. Cervix lacerated. Anterior and posterior vaginal walls much relaxed and hypertrophied.

Operation.—January 23, 1897. Curettment. Trachelorrhaphy (Emmett). Anterior colporrhaphy (buried catgut); ventro-fixation; perineorrhaphy (Emmett). Pneumonia developed second day; crisis sixth day after operation; recovery.

D 126.

Mrs. M. M., admitted January 7, 1897, æt. 53; 8 children, youngest 12; convalescence always normal; does not know of laceration. Last menstruation at 47; pain and loss of support followed birth of one child 20 years ago. Ten years ago uterus prolapsed while she was lifting a heavy weight, and has gotten progressively worse since.

Physical Examination.—Large uterus, with thick horny, skin-like covering, protrudes from vulvar orifice.

Operation.—January 9, 1897. Curettment; anterior colporrhaphy; ventro-fixation; perineorrhaphy.

C 444.

Miss Sheridan, admitted March 30, 1896, æt. 22. Has had to do hard work for a living since 10 years old. Puberty at 14; dysmenorrhea from first; pain before and during flow. "Falling of womb" since 17 years old. She attributes it to constantly stooping, heavy lifting, and carrying buckets of water. Headache; backache; vesical tenesmus; constipation.

Physical Examination.—Complete prolapse of uterus, relaxation, but no evidence of laceration of vaginal outlet. Endometritis; adnexa tender, adherent.

Operation.—April 1, 1896. Curettment; anterior colporrhaphy (purse string); celiotomy; salpingo-oöphorectomy (D); salpingo-

oöphorectomy (S); ventro-fixation (right hydrosalpinx and badly degenerated ovary). Left hydrosalpinx; cystic ovary; left ovary resected, tube opened and fastened to ovary.

C 426.

Mrs. M. Z., admitted March 16, 1896, æt. 34; 5 children, 2 miscarriages; last child $2\frac{1}{2}$ years ago, still-born. Laceration of perineum at that time. Now has headache, backache, bearing down pains, constipation.

Physical Examination.—Cystocele, rectocele, prolapsed uterus, eroded cervix, patulous os, uterus completely outside of vagina.

Operation.—March 19, 1896. Curettment; anterior colporrhaphy (purse string); ventro-fixation; perineorrhaphy.

B 207.

Mrs. M. G., admitted January 11, 1894, æt. 25; married 5 years; one child 3 years old; labor hard.

Present trouble: Throbbing headache, bearing down pains in back and sides; pain in legs; loss of support; prolapse occurred three years ago and uterus out while standing, would return while sitting till eight weeks ago.

Physical Examination.—Vagina much relaxed; uterus completely prolapsed; vaginal covering thick and ulcerated.

Operation.—January 13, 1894. Curettment; amputation of cervix; anterior colporrhaphy; ventro-fixation. February 16, perineorrhaphy.

B 124.

Mrs. E. McC., admitted January 17, 1893, æt. 35; 12 years married; four children, youngest 5 years; first labor hard; convalescence normal. Present trouble: Ovarian and dragging pain; dates from second confinement, 12 years ago.

Physical Examination.—Perineum torn, vagina much relaxed, cervix enlarged and eroded; uterus completely prolapsed.

Operation.—June 28, 1893. Curettment; amputation of cervix (purse string); anterior colporrhaphy; perineorrhaphy (Tait); ventro-fixation.

USE OF THE CURETTE.

BY MORDECAI PRICE, M. D., OF PHILADELPHIA.

There is probably no instrument now in use by the medical profession that has been so extensively and badly misused as the curette. It is used for the mildest uterine catarrh, as well as for the most desperate hemorrhage in fibroid tumors—there is no mild, severe or intermediate condition to which the curette is not applied. There is no condition of the pelvic organs so serious as to bar its use in the estimation of many in the profession.

The promiscuous and indiscriminate use of the curette has been the cause of more deaths than probably any other factor in gynecological surgery.

Its strongest advocates are those who desire to be known in the community as operators—they are without the courage and experience to make them safe surgeons, yet desire reputation and large fees for doing something that should not be done. There is no operation in gynecological surgery that requires more knowledge of pathological conditions and a greater experience in the treatment of the diseases of women. To claim that any novice can select the proper cases for and successfully perform these operations is to deny the experience of the ablest men who have given this subject the most careful study.

Take any experienced pelvic surgeon, and with scarce an exception, he will speak of the contradictions to this operation, and urge the risks rather than the benefits of operative interference with the curette where there is involvement of the appendages or any intra-pelvic inflammation.

How many men can decide as to the wisdom of this operation in any given case to their own satisfaction or the safety of the patient. In my own experience of thirty years, fifteen of which has been largely devoted to the treatment of diseases peculiar to women, I have found far more damage done in the use of this instrument than

good. In fact, in my experience, I have found forcible dilatation and curettment to be the direct cause of more abdominal sections for the removal of appendages than any other. The instrument should only be used after examination by and consultation with the most experienced men. The use of the instrument should only be at the suggestion of the most experienced and enlightened judgment.

It is common in inflammatory pelvic trouble to have a history like this—slight pain in the back, with discharge from the vagina, sterile, enemic, nervous and the consequent anxiety of the family.

Then follows the history of treatment, which can be briefly summarized—the attending physician states that he has done all he can to cure leucorrhoea and nervous symptoms; he then etherizes, dilates the cervix and cures the womb; this he is always proud to claim he did “thoroughly.” She gets no better, on the contrary, all her symptoms become aggravated, with the additional symptoms of pain when walking and defecation. He again curetted the womb, and from that time on her condition continued to grow worse—marked by chilly sensations and pelvic pain. The sequel of the treatment is the creation of a condition necessitating the castration of the woman.

It is grafting the consequences of an operation on an organ that had already reached the verge of all it could bear, and rough handling or mutilation, such as curetting, could only result in disaster. I will not occupy time in giving the conditions laid down for treatment by the curette, but confine myself to speaking only of those which, in my own experience, I have found the curette of use. In endometritis it may be at very long intervals, in the practice of a very busy gynecologist, of use. I have never had to curette a half dozen cases of endometritis.

In fungoid growths of the womb, small or large polypus and also in the fungoid forms of supposed malignant disease—

where there is great loss of blood and the patient will not submit to extirpation, the curette is of great benefit.

I have seen marvelous results from thorough curetting and drainage; in many of these cases they lived on for years without symptoms of trouble. I will refer to a case in point, one in the practice of Dr. Shearer, of Sinking Springs, Pennsylvania. The case is one of a lady some 46 years of age, a large, fleshy woman. She began bleeding months before curettment, and at times there was very severe flooding. At the time I saw her, now over a year, the womb filled up the entire pelvis—the mouth of the womb opened sufficiently to admit of a large size curette. She would not submit to a radical operation, so we decided to clean out the uterus. She was etherized, the parts internal and external were thoroughly cleansed; with the first stroke of the curette large lumps of gelatinous material, brain-like in appearance, began to flow out—about half a pint of this material was rapidly removed, when the loss of blood was so tremendous that a yard of bichloride cheese cloth was firmly packed into the womb, as the hemorrhage seemed in a fair way to prove fatal. In a few moments this was removed, when every vestige that could be found of the supposed cancerous material was curetted away and the womb again packed with gauze; a vaginal tampon was also used and the patient put to bed.

It is now over a year since the operation was done, and Dr. Shearer informs me that she continues to improve and has had no return of her old symptoms.

In abortion, miscarriage or after labor the curette has no place except in the grossly neglected cases where the woman has been allowed to go for weeks before the membranes and the placenta or parts of the placenta have been removed. All these cases should be treated promptly as soon as it is determined that the woman is aborting and the womb not able to throw off its

contents. She should be thoroughly etherized—the hand introduced into the vagina, the finger or fingers into the womb, and every part of the membrane, placenta and clot removed; the fingers should be used—by sense of touch you can be absolutely sure that your operation is complete, while with the curette you may scratch and scrape and wound portions of the endometrium, thus greatly aiding development of sepsis, and often the very part that should be removed is left.

I recall a recent case in which a physician curetted the uterus, and a short time after he left the woman suffered from hemorrhage, and the family not being able to get the man who had performed the operation, I was called, and when I reached the house the nurses showed me a three-months old foetus that had just been passed. If a man could miss a three months' foetus with the curette, might he not also miss some other things, while with the fingers such an accident could not occur.

In long neglected cases the curette probably would require less violence than to attempt the removal of decomposing membranes and placenta by the fingers. I rarely see cases so neglected. In ninety-nine per cent. of the cases in which the curette is recommended or used I am satisfied the finger is the only safe instrument to use, but neither finger or curette at any time without ether—an operation without ether is rarely satisfactory. The curette is of no use in ulcerative cancer, except it be used in connection with the cautery, where it is found to be a great benefit, in many instances relieving the patient for many months from the most distressing symptoms and giving the patient comparative comfort.

In fibroid disease and myoma it is a useless and at times a dangerous procedure. You may take one hundred tumors removed by hysterectomy and open the uterine canal, and you can wipe its lining clean with a cambric handkerchief, showing clearly that an instrument like the curette is not re-

quired. Many of these cases are tremendous bleeders. In doing these operations very few instruments are needed, a tooth forceps to steady the womb, a Sims speculum and three sizes of curettes—the largest possible should be used without forcible dilatation.

It is understood that absolute cleanliness must be used both outside and inside the field of operation; if discharges are unhealthy, some antiseptic solution should be used.

Some advocate the shaving of the parts. If any one advocating this practice will first experiment with shaving his own private parts—after two weeks of the growth of the heavy stubble he will discontinue the horrible punishment of shaving in his operations. In cleansing the parts it is easy enough to cover them up with wet gauze during the operation. Not a few men put forward the claim that they have never heard of bad results from the use of the curette. I have seen great numbers of them, and have offered a number of times when reporting such cases to give the name of the surgeon—the society declined to receive the necessary data to prove bad results, this possibly upon the ground that it involved the personal naming of some of the chief advocates of the procedure. Very many men do the operation because they think the operation is one they can do successfully; if the patient does not die the operation is reported as a success, no matter how very aggravated the patient's condition may be made. The little good that the curette has done in the cases where it is clearly indicated, cannot begin to compensate for the terrible consequences of its abuse. We can only speak with any weight of authority when we speak from our own clinical experience and direct professional observation of the use of the curette. Statistics, as in other lines of surgical procedure, give us no reliable data upon which to base opinion. Every man puts the best face upon his report of cases. That this line of dealing with vital questions tends to the

better enlightenment of the profession is questionable.

We get better lessons for our guidance from frank statement of facts as they occur in our experience, than from reports of brilliant and uninterrupted successes, however encouraging they may be as to possibilities. From our mistakes, the recognized errors of our procedures, we gain lessons of safer guidance than many taught by our text-books.

There is nothing in which our speech is so mistaking and stammering, as in admitting our mistakes. The rule should be, as little interference as practicable, and certainly no rough handling or blind cutting. If we are bothered with the number or weight of our instruments, let us leave the curette at home.

DISCUSSION.

Dr. John C. DaCosta, Philadelphia: The curette is not an instrument to be used by unskilled hands. It is one of the best instruments and one of the worst—one of the safest and one of the most dangerous, dependent upon who uses it, whether a trained man or a tyro. Like fishing, it depends on the man at the end of the pole. I can hardly imagine the picture presented by Dr. Price of a man armed with a sharp curette digging away at a soft, pulpy uterus. No one with any judgment would think of doing so, and in such a case as he cites the dull curette in a trained hand would do good and safe work. As a rule, where there is any debris or placental matter to be removed, we do not have to use any dilator. The uterine neck is patent, and although we cannot always get in the finger, as Dr. Price suggests, we can easily get in the curette, and if one like mine is used, which pours a stream of water on the edge of the instrument we can readily clear away debris. If you then finish by packing with gauze you will find, when you remove the gauze two or three days afterwards, that any remaining shreds of tissue are imbedded in the gauze and that you have a clean uterus. The gauze answers a three-fold purpose. It controls bleeding, stimulates the uterus to contraction, and catches the scattered debris.

You would not select a man who had never done an operation to tie an artery or amputate a leg if you could get on expert. So in the use of the curette, the operator must have eyes in the end of his fingers, and the curette be merely a

prolongation of the finger. Like the blind man, he must see with his fingers.

Dr. W. B. Ulrich, Chester: I would like to ask Dr. Price why it is that after a labor when you have an onset of fever, temperature ranging from 103 to 104½, with a painful, swollen leg, and things look ugly and alarming, from a septic standpoint, that a careful scraping out of the uterus of all disintegrated and broken-down material brings down the temperature, causes a subsidence of all alarming symptoms, and the patient goes on through an uninterrupted convalescence. I cannot see any great danger in using a blunt curette in these cases if it is properly used, under aseptic conditions. I never have and never will use a sharp curette after labor.

Dr. Mordecai Price: I am glad Dr. Ulrich has called the society's attention to the use of the curette after labor. We cannot measure the value of any treatment by isolated cases. There is no place where the curette can and does do more mischief than in a recently pregnant uterus and where it is of such questionable use. The uterus can be easily cleaned and thoroughly inspected by the finger of the obstetrician, without possible chance of opening new wounds or avenues of infection. In my consultation work I find numbers of women, suffering as Dr. Ulrich describes in his question, relieved by a purge. I have seen others after careful inspection of the endometrium and vagina, where I could find nothing to explain the septic condition. This septic condition would last for weeks—when the symptoms would be explained by the breaking down of an embolus. There are many interesting points in regard to the curette after labor, but I have not the time to relate them. The explanation for the too frequent and mischievous use of the curette is the almost universal craze to be known as a gynecological surgeon. The field is a restricted one and should be yet more restricted than it is; there should be less of it with the curette, and then there will be less necessity for other and more radical operations.

WHERE MEDICAL STUDENTS CONGREGATE.

According to the latest statistics, Chicago ranks first in order as a medical center, with over 2,500 medical students; Philadelphia second, with upwards of 2,300 students; New York shows a decrease in attendance from 1889 of almost 200, giving her the third place, with 1,900 students; St. Louis ranks fourth, with about 1,400 students, having passed Baltimore, Cincinnati and Louisville; Baltimore has 1,300 students, and occupies the sixth place.—(Med. Age.)

SOME THINGS THE GENERAL PRACTITIONER SHOULD DO AND SOME HE SHOULD NOT DO IN THE TREATMENT OF THE EAR.*

BY ADA HOWARD-AUDENRIED, M. D., of
PHILADELPHIA.

It is not my object to discuss either the minute anatomy or the pathology of the ear, but rather to write, in a simple and direct manner, of the technique of ear treatment. There is no organ in the body more intolerable of rude manipulation than the ear. The usual clinical picture of otitis media is a canal full of pus. The patient may declare that the ear has never discharged, or may only admit that there has been a drop or two of discharge. All histories in such cases are unreliable; illumination of the aural canal and a view of the drum by means of an aural speculum are the only sure means of diagnosis. Before using the speculum, the canal should be gently washed with a solution of formaldehyde, one-half of one per cent. It is my custom to keep in my office a large bottle of a one per cent. solution, which I dilute with hot water just before using; by this means both the desired heat and strength are obtained. No stronger solution of formaldehyde should be used in the ear. It may produce a slight burning sensation, but this quickly passes, leaving no permanent effects of irritation.

A one per cent. solution of formaldehyde is made by putting three drams of the full strength preparation into a quart of water, and it will retain its efficiency for an indefinite time.

After carefully syringing the ear and letting the fluid run into a finger-bowl, or any transparent receptacle which will admit of an examination of the contents, the physician should carefully dry the canal by using an applicator wound with small tufts of cotton, after which a satisfactory view of the drum can be obtained. Perforation may be found in any quadrant of the membrana

tympani. The speculum used for this part of the examination is preferably the Grüber; as its shape corresponds to the external auditory meatus. The canal should not be irritated by much manipulation of the speculum, as there is danger of inciting a diffuse inflammation. Even the presence of the speculum in the canal produces congestion of the drum, and on first introducing the speculum, the observer may see the current of blood flash from the manubrial plexus through the entire circulatory system of the tympanum. For this reason the speculum should be withdrawn from the ear when not in actual use. If the view with the speculum reveals any discharge still remaining within the ear, a metal syringe, with a long nozzle fastened by screw adjustment, such as is employed in antrum cases to wash out the nasal cavity, should be used. With this a stream can be directed to any portion of the drum. While the canal and drum should be cleansed thoroughly, the syringing should be conducted with utmost care. About one pint of the one-half of one per cent solution of formaldehyde is usually sufficient to cleanse the ear thoroughly in an acute case, and if the patient is seen three or four times, or at least twice a week, absolute cessation of the discharge is effected in from two to three weeks.

After carefully cleansing the ear, the drum and the canal should be lightly dusted with boric acid, care being taken to spread only a thin film of the powder over the drum. Too much powder blocks the canal and prevents free exit of the discharge. A chronic case is treated in a similar manner as regards the process of cleansing, after which the ear is swabbed with absolute alcohol, which is allowed to dry thoroughly; then a powder composed of boric acid 5i and alum gr. xv. is used, or acetanilid. If the edges of the perforation need stimulation, or if granulations are present, silver nitrate is used on the swab, the strength of the solution varying in accordance with the special conditions of each case; sulphate of copper

*Read by Title.

(gr. iv. to f̄3i) is also sometimes employed with good effect. The practice of packing the ear with gauze seems to me irrational, for the capillary property of the gauze is soon abolished by absorption and drying of the discharge, and thus the packing is changed into a kind of cork, which holds back the mass of pus which would otherwise find exit, but which, being imprisoned, finds its way backward into the mastoid cells. For a like reason, the resinous powders, such as aristol, are to be avoided.

In my personal experience formaldehyde has proved so effective that I have very seldom resorted to the use of peroxide of hydrogen, and only when the discharge is exceptionally difficult to reach, as in the upper quadrant of the drum, or when a cholesteomatous mass is present, which resists all ordinary attempts to dislodge it. If polypi or large granulations are present, they can be removed with Blake's snare or with a small curette.

In myringitis (inflammation of the drum), pain can be almost instantly relieved by hot carbolic acid solution or by formaldehyde solution carried gently into the ear by means of the syringe. Unless the drum is bulging or is very tense, no surgical interference is necessary. The use of a Politzer air bag is indicated in such cases. As soon as the Eustachian tubes are opened and the pressure equalized, relief immediately follows. But before using the Politzer, the throat and nose should always be sprayed with an alkaline solution, followed by an oil spray (such as the one composed of menthol gr. x., camphor gr. x., petrolatum liquidum f̄3i), for otherwise particles of germ-laden mucus may be forced into the Eustachian tubes, and so produce mastoid disease. An incipient mastoid involvement shows as typical signs, swelling, redness, local tenderness on deep pressure over the mastoid cells, sagging of the posterior wall of the canal, and the ear standing out at right angles to the head. One cannot easily be mistaken in the diagnosis of such a

case. The condition may be aborted, as I can prove not only from personal experience, but from two years' observation in one of the largest ear clinics in Philadelphia, where an average of one hundred and fifty ear cases are treated each week. Operations for mastoid disease were almost unknown in that clinic. Careful cleansing with hot formaldehyde solution, painting the mastoid region with tincture of iodine, applying wet antiseptic dressings until the cellulitis is overcome (and this result may not be obtained under a week or ten days), together with maintaining free drainage from the canal as a special feature of the treatment, accomplishes a cure without recourse to operation. At first the canal may be so swollen as to occlude the fundus and prevent drainage, but daily hot irrigation, together with change of dressings, brisk purging, with a saline cathartic, and rest in bed soon reduce the swelling, after which recovery takes place rapidly. Out of sixty-one cases operated upon by Dench, six died, whereas in my experience, which has included a large number of severe mastoid cases, not one treated according to the conservative method just described has succumbed to the disease.

For furuncle in the canal, the application of pure ichthyol, after the ear has been syringed with hot formaldehyde solution, acts almost as a specific. For eczema of the canal or of the auricle, with the formation of crusts, peroxide of hydrogen is employed, followed by a thorough application of yellow oxide of mercury. In many cases, one treatment, or at most two, will effect a cure.

Through traumatism the drum may be ruptured and discharge blood. This condition indicates the "let alone" treatment, as the coagulated blood forms a very good antiseptic dressing. After a few days, the canal should be washed with hot formaldehyde solution and boric acid should be gently blown upon the injured drum.

Brilliant results are obtained upon diagnosing correctly the ordinary condition

known as impacted cerumen. Upon examination with a speculum, the cerumen is seen as a black mass lying just within the canal. Gentle cleansing with hot water, if patiently and conscientiously performed, will always dislodge the accumulation. Instantaneous restoration of hearing and return of comfort are experienced by the patient.

A foreign body in the ear can easily be removed by repeated gentle syringing with hot water, which will reduce the swollen canal and expel the offending substance. If the substance is of solid nature, it may be grasped by forceps and so extracted. I have never resorted to anything but hot water, and have washed out pieces of onion, figs, slate and lead pencil, flies, fleas, and various other elements of earth, air and water.

Patients often complain of but one symptom—that of tinnitus. This distressing ringing in the ears is one of the most unyielding complaints met with in ear work. Upon examination of the drum, one finds it retracted, opaque, and perhaps lusterless, looking like blotting-paper, instead of thin and transparent. The normal drum resembles thin bond paper. It is important to recognize the resiliency and tension of the membrane. By means of Sieglé's otoscope, the ossicles, if movable, may be seen to vibrate with each stroke of the ball or piston of a small syringe which is attached to the instrument. If the ossicles are bound down by adhesions, massage done carefully by means of the Sieglé otoscope will break them. The tinnitus may by this means be relieved, but if it still persists, freezing the skin over the mastoid region, by means of a spray of chloride of ethyl, may alleviate the annoying condition. In all cases of tinnitus the nose and throat should receive treatment, as ringing in the ears is usually due to an extension of a catarrhal condition of the mucous membrane to the Eustachian tubes and thence to the ears.

I cannot refrain from making an emphatic

statement that it is the duty of every practitioner to thoroughly examine the naso-pharynx for adenoids in cases of ear trouble in children.

In young children a laryngological examination is usually impossible, but the physician's index finger can readily be passed behind the palate and up into the naso-pharynx, where adenoid vegetations are felt as a soft, velvety mass that bleeds on the slightest manipulation. In fact, one of the best diagnostic features of this condition is that upon withdrawal from the naso-pharynx the finger is found to be covered with blood. The removal of the adenoid vegetations is the most important detail in the treatment of the aural condition. Complete removal under ether has proved to be the most satisfactory method in my own experience with such cases.

NASAL CATARRH AND ITS RELATIONS TO DISEASES OF THE EAR.

BY W. S. BRENHOLTZ, M.D., OF LANCASTER.

Nasal catarrh, and also the troublesome ear conditions which may follow as a result of intra-nasal disease should command the careful study and serious consideration of every practicing physician.

In the few words I have to say to you relative to the intra-nasal diseases and their relation to diseases of the ear, my object is not to give suggestions as to diagnosis and treatment, but to urge the more prompt recognition of nasal diseases and the importance of proper and effectual treatment being at once begun, and thus preventing the progress of the disease and the development of more serious complications. The question might be raised as to what constitutes a diseased condition of the nasal mucous membrane and whether we can recognize it in its milder forms by sufficiently characteristic appearances.

We not only can do this, but we should do so in all cases with the same delicacy of appreciation as is used in the recognition

of diseased conditions of other organs, and this by ocular inspection; for since the introduction of cocaine we are enabled to bring into view the whole of the nasal chambers in a manner so thorough, that no morbid process existing there should escape notice.

Patients, when presenting themselves to a physician with any one of the symptoms of nasal catarrh, should under no condition be put off with the remark that they should "let it alone and it will come all right." This policy of doing nothing at all, of letting nature have her own way, is, to say the least, dangerous, not only to the hearing function, but may cause various other conditions for which the physician, who gives such advice, must consider himself directly accountable.

The physician is also responsible for the results of his treatment, and therefore he should not be satisfied with the old and non-curative procedures employed in the past, but he should be up-to-date and should employ the new methods which have been brought forward in the last few years, and which, by the way, have done much toward putting the rhinologist and the otologist among the leaders in the medical profession. Notwithstanding this, the idea is still held by many that the local applications constitute the essential element necessary for the cure of catarrhal diseases. This, I believe, to be an entire mistake. A catarrhal inflammation, as a rule, is not cured by the local applications of astringent, alterative, stimulant and other remedies. Local applications are undoubtedly useful, but I am afraid that those who place their main reliance on sprays will find themselves disappointed in the results of treatment.

The nasal douche is used by some indiscriminately in catarrhal affections of the nasal passages and much harm is done by its being so used. The value of the nasal douche as a means of applying cleansing fluids to the nasal cavities in certain cases cannot be denied, especially in atrophic

rhinitis, and perhaps in syphilitic necrosis; but in the ordinary chronic inflammation with hypertrophy it is not only of no permanent value, but may be mischievous as first suggested by Roosa, who reported a number of cases of otitis media resulting from its use; attributing the accident to the entrance of fluids into the middle ear. As a very large proportion of patients affected by hypertrophic rhinitis of long standing suffer from a mild form of middle ear disease, which acts as a predisposing cause of the acute form, and this is probably precipitated by the use of the nasal douche. Considering the danger, and also the fact that the nasal douche accomplishes little, if any good, in hypertrophic rhinitis, its use in this affection should be condemned.

Steam inhalations are sometimes used, regardless of the morbid condition being treated. In acute inflammations, involving the upper air passages, inhalations undoubtedly serve to relieve pain, and perhaps to mitigate the severity of the attack; they make the patient more comfortable by relieving the irritability of the parts and lessening the severity and frequency of the cough.

On the whole, however, inhalations are to be regarded largely as palliative measures; the elaborate apparatus for inhaling purposes may produce a certain moral effect on the patient, but the action of the drug is not likely more efficacious than when used in the more simple devices. The steam atomizer is an interesting toy, and it has been discarded by some of the best throat and nose men, because it not only does little good, but it is capable of doing harm; especially is this true in all forms of chronic diseases of the air passages, as the hot steam so relaxes the parts as to counteract the benefit accomplished by the medicament. Only use these agencies when they are really indicated and when you know they will do good and will positively do no harm.

Another evil that confronts us, and one in which, no doubt, many of us are liable

to engage, is the "regular routine" to which most all patients are subjected in many of the throat, nose and ear dispensaries. Indeed, many specialists in their private practice have a "regular routine" for different groups of patients. This practice is, indeed, wrong, and those who engage in it, and those dispensaries in which it is carried on do not certainly have as good results from their treatment as those who consider every case a law unto itself and treat it according as the morbid conditions would indicate.

The ear troubles that are the result of intra-nasal disease occur either because improper methods of treatment have been employed, or because the nasal disease has been entirely neglected.

Symptoms referable to the ears, I believe to be present in a far larger proportion of cases than is usually recognized by our standard authorities, either in throat or in ear diseases. There are some, however, who admit that 90 per cent. of all ear diseases are secondary to throat and nose disorders.

Hypertrophic and atrophic rhinitis are responsible for more ear troubles than the other intra-nasal diseases. Although in acute rhinitis it is not unusual to have deafness and ringing in the ears, due to obstruction of the eustachian tube, but not to extension of the inflammatory action, although it may extend to the middle ear and acute otitis media may develop.

Deafness is perhaps the earliest and most easily recognized symptom with which we meet. A moderate diminution in the hearing distance, as tested by the watch, will probably be recognized in a very large proportion of cases of intra-nasal diseases.

Disease of the middle ear, as recognized by notable impairment of hearing, retraction, atrophy, or calcification of the tympanic membrane, together with obstruction of the eustachian tube, as determined by politzeration or the use of the catheter is by far the most frequent morbid condition

of the auditory apparatus met with in connection with intra-nasal disease. This affection is undoubtedly a direct result of the hypertrophic process in the nasal cavities.

In a certain proportion of cases of hypertrophic rhinitis, tinnitus aurium is met with usually in connection with middle ear disease, though in a number of cases there is apparently no organic disease. That this symptom may be dependent on the nasal disease, is shown by the fact that in a large proportion of cases it disappears under treatment, or at least marked relief is afforded.

Bosworth says that moderate impairment of hearing occurs in the later stages of atrophic rhinitis in a large proportion of cases, while a graver form of deafness is not an infrequent complication. Wyss, of Geneva, in an examination of sixty cases of the disease found ear trouble in forty-seven, including all cases, probably of moderate diminution of the hearing distance. Burnett, of Philadelphia, found an atrophic condition of the nasal mucous membrane in 14½ per cent. of cases of chronic catarrhal otitis media. Beverly Johnson, without giving statistics, makes the statement that aural complications are met with in atrophic rhinitis far more frequently than in hypertrophic rhinitis.

Authorities claim that various ear troubles already mentioned as dependent on hypertrophic rhinitis, may equally well arise from deflections of the septum, and, that in the latter, ear symptoms sometimes develop before the catarrhal inflammation has progressed to any serious extent. Bosworth regards "this point as one of no small importance," for in a number of cases which have come under his observation, marked impairment of hearing has been completely relieved by the removal of a septal obstruction in the nasal passages. He says "this would seem to substantiate the opinion that catarrhal disease of the middle ear is not necessarily due to an extension of the inflammatory actions."

Some authorities give prominence to the occurrence of ear symptoms in connection with adenoid disease. No symptom of the disease possesses greater importance or requires more thorough appreciation and study than that of ear complications, occurring as they do early in life, and at a time when only their prompt recognition may save the patient from permanent loss of hearing. According to the best authorities the proportion of cases which escape ear trouble is small.

Bosworth says that the method of development of the two aural conditions, namely chronic catarrhal otitis and chronic purulent otitis, met with in adenoid diseases, is the same. The presence of the adenoids interferes with renewal of air in the middle chamber. Any cause which interferes with free nasal respiration, if continued sufficiently long, is liable to cause impaired hearing by its interference with this function. Moreover, the free action of the laryngeal palatal muscles is interfered with by the presence of these growths, and this movement is of importance in accomplishing this mechanism of air renewal.

It is only in comparatively recent years that some of these nasal lesions have been recognized as possessing the power to exert a harmful influence upon the organ of hearing.

Exactly how this is effected the best authorities do not know precisely in every instance. Reflex influences may be at work in some cases.

There can be scarcely any doubt with regard to the harmful effects produced upon the ear by a narrowed condition of one or both nasal passages. With every act of swallowing in this condition, the air in the vault and in the narrowed nasal cavity will be partially exhausted, and the blood vessels of the mucous membrane which is exposed to this rarified air will become engorged with blood. When we consider how many times during a day the act of swallowing is performed, consequently how often the

blood vessels of the vault and middle ear must be disturbed, we can form some idea of how seriously this repeated rarification of the air in the vault of the pharynx and communicating middle ear must affect the mechanism of hearing.

Let us devote our time and energy, not in searching for the cause or way the ear is affected by nasal catarrh, but in seeking to know how to treat the nasal troubles so that the ear complications may not arise.

DISCUSSION.

Dr. Louis J. Lautenbach, Philadelphia: I wish to hope some other gentleman would take part in the discussion of the subject. I think that specialists in this branch, with all the knowledge which they possess at the present time, have but slight knowledge now compared with what they will have in the near future. I think we all feel that there is much which is just beyond our grasp but as yet not one of us knows how to proceed to widen our knowledge. There is not a doctor within the sound of my voice to-day or in the reach of medical journals but knows that the indiscriminate use of the nasal douche is exceedingly harmful. It is a notorious fact that a large class of ear cases come to the ear specialist which have been caused or made worse by the nasal douche—a class of cases most difficult to cure. One thing the doctor did not mention, but in the limited time allowed for the paper it could hardly be helped, and that is the internal treatment. When the general system becomes deranged and the nervous energies are at a low ebb, catarrhal disease is hard to treat successfully, the general condition of the patient must receive attention as well as the local manifestations of the catarrhal disease. One reason why diseases are so difficult to combat is because they are rarely seen in the early stages. It is a fact that people, as a rule, will not admit that their hearing is affected often, perhaps, when they actually cannot hear a watch more than five or six inches away.

So far as the presence of adenoids is concerned, I think they are more frequent than is commonly supposed. Removal always improves the hearing and also the catarrhal condition.

In closing I would say that I believe in this particular branch of medicine that we are on the eve of some wonderful discovery; who will make it, I cannot tell, but many of us are pretty close to it and I believe that some one will soon be the leader to show us the way.

Dr. S. S. Towler, Marionville: I was delighted

to hear the paper and discussion because it brings to my mind a case that came into my office recently. This lady had visited the city of Philadelphia, and when she returned she informed me that she had seen one of the leading specialists of that city. She showed me twelve powders of one kind and twelve of another kind. The directions were for her to dissolve one powder of the first in a quart of water and douche the nose thoroughly until done, and then use the others the same way—the washings being 3 times daily. The powders were bicarbonate of sodium. The other twelve were borax. The specialist charged \$10 and the druggist \$2.50 for the powders, and this they paid, although they have owed me a bill of \$30 for two years.

I wish that paper could be read to every general practitioner in this commonwealth, and in the United States. The one thing that is very common in the treatment of these cases to-day is the eternal, everlasting washing of noses with hot medicated solutions.

RUPTURE OF THE DRUM HEAD NOT NECESSARILY INCURABLE.

BY LOUIS J. LAUTENBACH, M.D., OF PHILADELPHIA.

The domain of ear disease has been surrounded and honey-combed with superstitions, faulty beliefs and wrong doctrines, to such a great extent as not only, to prove harmful to the ear sufferer, but also to the medical profession. So deeply has the medical profession been infected, that not until the recent past has determined effort been made to combat these untruths, to overcome these errors, and to benefit by the application of common sense, as well as by the use of advanced modern scientific and medical methods. So long have these errors been accepted as truths, that it has become a part of our stock of common knowledge. Despite the great extension in general education, and the phenomenal advances in modern medicine (in surgery, in antisepticism, and in the mechanics of medicine especially); there are those still among us who, perhaps not personally seeing the results of the otologist's skill and persistency, are clinging to the traditions of that past, thinking that this is no better present, and that there is no brighter future. Can we then

blame the public if their attitude toward this branch of medicine is one of distrust and of doubt? Can we blame them for treasuring as truths all the false doctrines of the long ago? Can we blame them for believing, that to save one's hearing, one must avoid ear doctors, as the ears are but made worse by treatment? Can we blame them for believing that Mullen oil and Rattlesnake oil possess marvelous virtues in healing the ears and restoring the hearing? Can we blame them for believing that ear discharges should not be cured, because if they be thus stopped, they will break out elsewhere, causing consumption and other wasting diseases? Can we blame them for believing that these discharges will be cured by nature; that children will grow out of them? Can we blame them for believing that a broken drum head necessarily means absolute loss of hearing, and that there is no possibility of healing this drum head, nor any chance of restoring the hearing thereafter?

In this branch of medicine peculiarly was the policy of hopelessness, of inaction, and of waiting for nature to perform a cure, carried to its extremest limits, and from this desuetude and slumber, neither the medical profession nor the general public, has up to this time been able to entirely divorce it.

These old ideas, all of which are wrong are stumbling-blocks to the conscientious doctor in his efforts to do the maximum of good, and should be discouraged, by every means in our power.

In this connection, I wish to call your attention to an extract from a text-book of physiology,¹ written for the use of common schools by a physician well known as a writer of works on this subject, and used very extensively in public and private schools throughout the United States. Indeed, it is a standard on the subject in the greater number of our large cities, and has been published to the extent of hundreds of thousands of copies, having undergone numerous editions in the last fifteen years.

The concluding sentence of a paragraph describing the drum head and the danger of its being broken, reads: "If once broken this delicate membrane cannot be repaired, and deafness results." This is far more than a gross exaggeration of the truth, and more than a perversion of it. It is an untrue statement and one that is not at all borne out by facts. It is daily disproved by the experience of every otologist. A most important fact in this connection is that children receive impressions readily, and retain them long, and this sentence being in their study books as a part of their lessons, they accept it as true and later on, should the necessity arise to have these views combated, it will be well nigh impossible to overcome the false knowledge, which has through years of retention, with perhaps both conscious and unconscious thought, become a part of their great storehouse of fact. Such a false knowledge, deeply fixed, may prevent the institution of prompt and proper measures, should these be needful to save the integrity of the drum head or of the hearing function, or of both. Not only do the students themselves become infected from such false teaching, but their elders, from association with their children, either get the false knowledge instilled into them, or have their own erroneous views strengthened. It is absolutely necessary that school text books should be definite and accurate, avoiding errors and false teachings. Especially should such a standard be demanded in books treating of the human body in health and disease. Here a wrong, faulty knowledge may do much more harm than a lack of it, whereas a similar error in another branch, if learned, is but an inconvenience, and brings with it no lost opportunities for mental and physical health; as undoubtedly have resulted from a too rigid adherence to the words and spirit of the untrue statement above quoted. I know personally of several cases of ear disease which were neglected because of the hopelessness of the above sentence.

Anyone who has known of the miseries often endured by those suffering with suppurative disease of the ear, especially such cases as have from neglect, or other causes, extended to the surrounding bony structures, involving the mastoid cells, or extending to the cerebral meninges, perhaps even causing death, would certainly not give advice in that hopeless way, but would be more cautious and more accurate. Anyone who has observed how the deaf suffering from enforced isolation, due to a condition which sooner or later, as the darkness of hearing grows more and more profound, becomes more or less akin to that of chronic melancholia, with its suspiciousness and distrust, its self-abasement as well as its self-concentrations, would certainly not give advice founded on such an untrue statement.

As a matter of fact, perforations of the drum head are nearly always curable, if seen early in their history. Perforations from blows or from some sudden violence, occurring in healthy ears, will usually heal satisfactorily within a few days, if the treatment be gentle and skillful, and applied with judgment. Indeed, many of the traumatic cases heal without treatment, but this course is not the best one, as in the healing process, occasionally foreign substances are caught in the rent, or again the torn edges are apt to unite with the surrounding tissues, and the drum head's motion being impaired, the healing remains defective.

Under all ordinary conditions the reparative and reproductive power of the drum head is very considerable. Any tear or rent of the drum head has a positive tendency to self-healing at once, and even when the ears are considerably diseased, this is often apparent.

In the old operation on the ear ossicles, with the removal of the drum head and malleus, there was noticed almost a constant tendency to the reproduction of a secondary drum head. Indeed, in many cases the hearing in these cases was very consid-

erably improved until the secondary membrane formed, when the hearing was lessened. Having had this experience with a number of cases, I many times wished that the reparative power could be temporarily, at least, subdued. I recall a case which I treated, Mr. Carlos P., of Costa Rica, in which Dr. Samuel Sexton, of New York, had removed the ossicles and membrane, and where upon two subsequent occasions he removed secondary membranes, and yet when I saw him some six months after this third operation, a complete substantial membrane was stretched entirely across the meatus in the normal location of the membrana tympani.

In considering the question of the healing of perforations, two main propositions must engage our attention:

First. We must be sure that the structures within the perforated drum head are not in a state of inflammation. If there be any disease present this must be thoroughly conquered before any serious effort is made to heal the membrane. When this inflammation is overcome, then we commence to heal the perforations, and under ordinary conditions the closure is easily accomplished.

Secondly. If after the inflammation has subsided healing does not occur promptly, it is probably due to a cicatrization of the edges of the broken drum head, and means must be adopted to renew these edges by making them more active and ready for healing.

By careful attention to these requisites, of curing the disease within the membrane, and of renewing and freshening the edges of the perforation whenever there seems a deficiency of reparative power, we will succeed in curing almost all cases of perforation. We will fail in few cases unless the perforations be of tubercular origin.

Burnett² says: "The popular impression that the membrana tympani, once perforated, can never be healed, is a wrong one. The drum head on the contrary has great

power of healing and restoration, as shown by Dr. H. N. Spencer³ and others. A simple slit in it will heal in a few hours if there be no inflammation in the drum cavity. Larger and even gaping perforations, caused by disease, tend to heal, unless the disease in the tympanum keeps up and leads to a cicatrization of the edges of the opening in the membrana tympani."

Many years ago I treated a young girl, Mary H., who a few days before had the drum head broken by efforts in removing a stone from the ear, and although several days had elapsed since the injury, and the drum head and surrounding tissues were considerably inflamed, there being no hearing apparent, yet within a few weeks the drum head was perfectly healed, and the hearing was practically perfect. Examining her ears several years later, I found the drum head perfect in every respect, and the hearing on the injured side extraordinarily good, it being remarkably better than the average hearing, as well as better than the uninjured ear.

I have seen numerous cases of perforations caused by the violent blowing of the nose, the perforations healing promptly with perfect hearing. One was that of a young woman (a sister of a Philadelphia physician), suffering with chronic Bright's disease, who caused a perforation in the lower aspect of the drum head in this manner, and yet, within twenty-four hours of the time the perforation occurred, the drum head was solid and the hearing was nearly perfect.

In papers presented to your society,^{4, 5} and the American Medical Association,^{6, 7} I have put a number of healed perforation cases on record, cases in which there had been inflammation of the middle ear cavity going on for a long time, and in which the suppuration had been persistent, yet the middle ear disease was cured, the suppuration stopped, the perforations healed, and the hearing improved.

In connection with these cases, I want

to cite that of Mr. Henry P. S., one of the University of Pennsylvania professors. In consequence of a severe cold, taken early in November last, he developed an inflammation of the middle ear, with mastoid involvement and perforation of the drum head, and within a few hours was thoroughly deaf on the affected side. The pain was excruciating and persistent, the inflammation being acute and violent and hard to conquer. The drum head healed perfectly after the inflammation had subsided, and the discharge stopped, and after persisting with the treatment, he was discharged last April with a sound drum head, and absolutely perfect hearing for all sounds.

Last November a two-year-old girl was brought to me, in whom a large glass jewel, about the size of a 2-karat stone, had been jammed through the drum head in efforts made to remove it the preceding evening. I found the drum head thoroughly crushed and ruptured, the handle of the malleus thrown far up, and the glass lying entirely within the tympanum along its floor. With great difficulty I removed it, under ether, and within a month the drum head was well healed, and the hearing was commencing to return.

Burnett² records a case where 15 years after a large perforation occurred, he succeeded in entirely restoring the drum head, and fully restoring the hearing. Such, in fact, is the experience to-day of every worker in this special field of medicine.

Personally, I consider it a great pleasure to treat this class of ear cases, they are usually so hopeless and so grateful for the unexpected good results. I consider this class of cases in their results the most promising. In fact, by persistency and the exercise of patience and good judgment, you almost always succeed in subduing the inflammation with the attendant discharge, as well as curing up the membrane, and restoring the hearing, either in whole or in part.

There is, however, another very impor-

tant matter to be considered, especially important to the patient. When is the treatment to be commenced? It should be commenced at the earliest possible moment, as a recent perforation is much more readily healed than an old one, and an acute suppuration is more promptly controlled, and with less damage resulting therefrom, than an old chronic case. If the case be a recent one, the inflammation is more rapidly subdued, and the edges of the perforation are active and not cicatrized. Another factor is, that in recent cases of such disease, there is usually no involvement of the internal ear, whereas, when the disease has been present for months and years, this involvement is more apt to occur.

Politzer³ thinks that this involvement of the nerve occurs more rapidly than is usually supposed, often within a few weeks of the initial attack. There is no doubt it occurs often late in the progress of the case, and occasionally early, but it does not occur invariably. The case of Mrs. R. W. K., aged 40 years, presented by me to you some years ago, is a notable case of long standing, with little or no involvement of the internal ear. She had scarlet fever in infancy, and this had caused a middle ear inflammation, with suppuration and perforation and loss of hearing, and she had never heard a thunder clap until she had been under treatment for some months. She now hears all ordinary sounds and noises, the watch, conversation, etc., quite well.

If after cases of acute fevers, followed or accompanied by suppurative disease of the middle ear with perforation, prompt attention be devoted to this special organ, there would, within a short period, be a marked lessening in the number of the deaf. The cure of suppuration would, except in rare cases, be rapid, the membrane would heal quickly, and the hearing would promptly be restored.

The physician, but especially the family, are only too often apt to neglect this easily curable condition on the ground that it will cure itself, or the patient will grow out of

it, or they will be content with insufficient cleansing or haphazard treatment, and allow it to grow into a stubborn, persistent, chronic inflammation, with loss of hearing, requiring exceeding care, perseverance and persistency to overcome.

When, for any reason the family physician cannot promptly and properly attend to such an acute case, he should insist upon engaging the services of the ear specialist, shifting to him the responsibility of bringing about entire restoration of structure and function.

Going back to the original text, we find yet more to criticise. We find it says that, if the drum head be broken, "deafness results." Here again experience and reasoning tell us to the contrary. It is admitted that perforations can occur, or even the drum head be entirely removed, and yet a fair amount of hearing be present. In other words, the drum head is not essential to hearing. It is undoubtedly an advantage, but if all the other parts of the ear be intact and perfect, the hearing will be good. In this connection I recall a case I reported some years ago of a Mr. Henry S., of Bristol, Pa., from whose ear I removed a series of polyps and granulations, the drum head being entirely destroyed, no vestige of it remaining, and yet when his ear was well, that is dry without inflammatory action, the polypi and proud flesh having been removed, having carefully retained the ossicles in position, his hearing was as good as ever, and fully as good as his sound ear.

Last November I succeeded in the case of Mr. Edgar H. B., of Johnstown, Pa., in removing masses of granulations, thoroughly cleansing out the middle ear cavity, and after three weeks of such work, I sent him to his home without a trace of a drum head, the middle ear cavity being entirely exposed, being dry and without evidence of inflammation, the stapes only being in position. His hearing had improved from practically nil to about one-fourth normal.

There has, from his account, been a steady improvement in the hearing going on ever since.

These cases will, I think, make it evident that the drum head, while an aid to hearing, is yet not an essential, it being but a minor part of the apparatus conducting the sound from the external air to the internal ear.

Summarizing, we found that otology in the past, like medicine in general, was founded on superstition and wrong beliefs, due to a lack of knowledge and experience, and that these untruths affect its attitude to some extent even at the present day. It is perhaps the last of the branches of medicine to shake itself free from the shackles of mysticism. We find that the general public, and to some extent even the medical profession, look with distrust upon it, believing that its basis is neither sensible nor scientific.

We have observed that in regard to the special subject of this paper, there must be a widespread misunderstanding of the truth of the situation, as there is being propagated through the medium of an advanced school text-book, written by a well-known writer of New England, absolutely false statements as to the healing of a perforated drum head, and the effect of such a condition on the hearing function. It is the duty of medical men to combat such wrong beliefs and wrong statements wherever encountered, and in this connection, this morning I offered a resolution, which was passed unanimously, appointing a committee of five to examine school text-books on physiology, hygiene and allied subjects, and report annually the results of their investigations to this society.

The conclusions reached are that perforations of the drum head are usually capable of being healed, this process occurring the more readily and rapidly the sooner it is properly treated after the opening has occurred. Traumatic perforations are more readily healed than those resulting from in-

flammatory action, this being so because there is no middle ear inflammation with suppuration to conquer before the healing commences. All other things being equal, the older the perforation the more difficult it is to cure, the difficulty being increased when cicatrization of the edges of the opening has occurred.

The hearing is not necessarily destroyed when a perforation occurs. Oftentimes it can be entirely restored after curing the perforation. Some hear perfectly in whom there is an open perforation, as well as some in whom the drum head is entirely absent. The hearing power being in these cases retained by reason of the integrity of the sound conducting apparatus, of the ossicles, their attachments and their articulations, especially the articulation of the stapes in the oval window, the perfect preservation of this articulation being probably the greatest essential to hearing.

DISCUSSION.

Dr. A. C. Wentz, Hanover: I think there is one point in connection with this matter that is very important. It is that we as general practicing physicians should instruct the people to watch the ears of their children. For instance, within the past year I have noticed in several children running ears which had evidently been produced by the vomiting of the milk the children had taken while lying down, running down into the ear, producing a discharge and consequent rupture. That is one of the causes which should be carefully watched.

Dr. L. J. Lautenbach, Philadelphia: I think Dr. Wentz has told us a great truth. The ears of children should indeed be watched very carefully and treated as soon as affected. Children should be taught to keep their fingers out of their ears. As was said, clots of coagulated milk, thrown up in the act of vomiting, may cause serious inflammation. This is a frequent cause of acute ear disease.

There is a general impression which I attempted to correct in my paper presented to you at this meeting, and that is that after perforation of the drum-head the hearing is not necessarily destroyed.

1. Dr. Albert F. Blaisdell: "Our Bodies and How We Live." 1894, P. 216.

2. Charles H. Burnett, Treatise on the Ear, 1884, P. 342.

3. Transactions American Otological Society, 1871, Vol. 1, P. 179.

4. Transactions of the Pennsylvania State Medical Society, 1893.

5. Transactions of the Pennsylvania State Medical Society, 1896.

6. Journal American Medical Association, October 3d, 1896.

7. Journal American Medical Association, March 26, 1898.

8. Adam Politzer, Treatise on The Ear, 1896, P. 326.

THE NAVY'S LOSS IN THE WAR.

The total loss in the navy in killed and wounded in all the engagements of the Spanish War is eighty-four men, of whom seventeen were killed and sixty-seven wounded. In the naval engagement at Manila one man was killed and nine wounded, all of the latter returning promptly to duty. In the battle with Cervera's fleet at Santiago July 3, one man was killed and ten wounded, all the wounded returning to duty. In the attack on the Santiago forts June 22, one man was killed and eleven wounded, seven of whom returned to duty. The heaviest loss of the navy was at Guantanamo. There were twenty-two casualties in that 100-hour fight, six were killed, and of the sixteen wounded men nine returned to duty, three were invalided from the service, and four continue under treatment. At Cienfuegos one was killed, one died from wounds, and ten were wounded, nine of whom returned to duty. At Cadenas the torpedo-boat "Winslow" and the gunboat "Hudson" lost five men killed and three wounded, all the latter returning to duty. In the bombardment of San Juan one man was killed and seven wounded, six of whom returned to duty. There were four other casualties in as many separate engagements. Considering results obtained, this list is said to be the most remarkable in the naval history of the world.—(Med. News.)

Physician's Blessings.—Two things are essential for the good of the family life of the physician—patients for the husband and patience for the wife.

... THE ...

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THE PRINCIPAL POISONOUS PLANTS OF THE UNITED STATES.

A recent bulletin issued by the U. S. Department of Agriculture, Division of Botany, entitled, "Principal Poisonous Plants of the United States," throws much light on a number of native and introduced plants known to possess toxic properties. The investigations have extended over a period of several years and were under the supervision of Mr. V. K. Chestnut, assistant in the Division of Botany.

The first of the poisonous plants considered are the fungi, of which two species receive special attention. These are, *Amanita muscaria*, or fly amanita, and *Amanita phalloides*, or death cup; both of them resemble, more or less, the edible fungi and are not infrequently the cause of death, on account of ignorance in differentiation. The poisonous principle of the first, fly amanita, is the alkaloid muscarine, which apparently pervades the whole fungus, but is most abundant in the gills. The "characteristic symptoms in cases of poisoning are retardation of the heart's action, and extreme difficulty in breathing." This is soon followed by profound coma, preceded or associated by various nervous manifestations. In fatal cases the condition of narcotism may last

from one to two days, death taking place, "from a gradual weakening and a final stoppage of the heart's action." This depressant action upon the heart is directly antagonized by atropine, which should be administered hypodermically in full doses. The stomach should be relieved of the unabsorbed portions of the fungus, or if that cannot be accomplished, the administration of recently burnt charcoal, or a dose of two grains of potassium permanganate, in a one per cent. alkaline solution, is recommended.

The poisonous principle of the even more deadly *Amanita phalloides* is of very different nature, belonging to the class of substances known as toxalbumins, and is called phallin. Unlike muscarine, phallin is rendered inert by coagulation in boiling water. The effect of this poison is not through the nervous system primarily, but upon the blood corpuscles, these being rapidly dissolved, with subsequent escape of the blood serum into the alimentary canal. The symptoms of poisoning come on from 9 to 14 hours after ingestion, and manifest themselves in the form of abdominal pain, cramps in the legs, and convulsions. The heart's action is weak, but may be either quick or slow; pupil sometimes dilated; nausea and vomiting are soon followed by "extreme diarrhea, the alvine discharges assuming the peculiar 'rice water' condition characteristic of cholera." Death results in from 2 to 4 days, during which time the diarrhea persists. Consciousness is generally retained to the last. Treatment of this form of poisoning is much less efficacious than when produced by muscarine, for no antidote, against phallin is known. Transfusion of salt solution is recommended.

Among the flowering plants the first to receive attention is *Veratrum viride*, known to all physicians as a heart sedative. Cases of poisoning by this plant have arisen from eating the young leaves in mistake for those of marsh marigold as a pot herb. Its physiological action is too well known to require repetition here. The secondary emetic ac-

tion of this drug takes the part more or less of an antidote, and renders it much less fatal than other heart depressants, such as, for instance, aconite. The official *Aconitum napellus*, is not found in America, except in gardens, but another species *Aconitum columbianum* occurs west of the Rocky Mountains. Several other species occur in the Eastern States, but not in abundance. A number of species of larkspur, members of the same family as aconite, contain poisonous principles, and have been known to produce poisonous action in cattle.

The pea family is interesting, from a poisonous standpoint, mainly on account of the "loco" weeds, of which a number of species are known to be poisonous to horses and cattle. The chemistry of these plants is not very well understood, but it is believed that the toxic principle is due to an acid. The effect produced is a very peculiar one, and is described by the author as follows:

"Horses, cattle, and sheep are affected by loco, but the principal damage is done to horses. The effect is not acute, but in its slow progress simulates diseases caused by bacteria, worms, or other parasites or such as are caused in man by the continued use of alcohol, tobacco, or morphine. Two stages are recognized. The first, which may last several months, is a period of hallucination or mania accompanied by defective eyesight, during which the animal may perform all sorts of antics. After acquiring a taste for the plant it refuses every other kind of food, and the second stage is ushered in. This is a lingering period of emaciation, characterized by sunken eye-balls, lusterless hair, and feeble movements. The animal dies as if from starvation, in periods ranging from a few months to one or two years."

The sumac family contains a number of poisonous plants, the best known of which is poison ivy, *Rhus radicans*, whose fresh leaves are official in the U. S. Pharmacopœia, under the name of *Rhus Toxicodendron*. The dermatitis produced by this species and other members of the genus, is

well known to all medical men, but the nature of the constituent causing the inflammation, was only recently discovered. It is now known to be a non-volatile fixed oil, possessing irritant properties of intense activity. The author recommends a saturated solution of powdered lead acetate, in 50 to 75 per cent. alcohol, this to be thoroughly rubbed into the skin. A preliminary cleansing with dilute alcohol, to dissolve and remove the superficial oil, would seem to be advantageous.

The carrot family contains many plants of a poisonous nature, and fatalities especially among children, from eating the roots or other portions of these plants are of not uncommon occurrence. The American water hemlock, *Cicuta maculata* is stated to be one of the most poisonous plants native to the United States. Its roots are sometimes mistaken for parsnips, sweet cicely, or other edible roots. They are supposed to contain the alkaloid conine, and a bitter principle, cicutoxin, both powerful poisons. The symptoms are "vomiting, colicky pains, staggering, unconsciousness, and frightful convulsions, ending in death." *Conium maculatum*, an historical plant, best known under the name of "Poison hemlock," also belongs to this family. Its fruit is official under the name of *Conium*, and is therapeutically applied as a powerful motor sedative. The statement is made that this plant does not occur in great quantity anywhere in the United States. It is a fact, nevertheless, that in certain localities in Allegheny and Washington Counties, in Western Pennsylvania, it takes almost complete possession of circumscribed patches of low ground bordering on streams.

The heath family, embracing the laurels, also contains many poisonous plants. The best known of these are "sheep laurel," and "mountain laurel," or "rhododendron." The active poisonous constituent is andromedotoxin. Sheep, cattle and other domestic animals are common victims to these plants, but deer, it is said, are not affected,

nor are pheasants feeding upon the buds injured, though their flesh, it is claimed, becomes poisonous. Young laurel leaves are sometimes mistaken and eaten by children for "mountain tea" (wintergreen), with poisonous results.

The nightshade family contributes a number of species of poisonous plants, the best known of which are the "jimson weeds," *Datura stramonium* and *Datura tatula*. As these are plants that seek the society of man, and are common in villages and even large cities, cases of poisoning from them are not rare. They are identical in poisonous constituents with belladonna and contain the alkaloids atropine and hyoscyamine.

The last of the natural orders referred to, the sunflower family, is one generally recognized as non-poisonous and but one species *Helenium autumnale*, is referred to by the author, and is said to be poisonous to cattle. The family is interesting medicinally from another point of view, namely, in the pathological manifestations, induced by the pollen of a number of its members, recognized as hay fever. The principal offenders in this line are the "rag weeds" and "golden-rods," found in great abundance throughout the land. K.

THE PITTSBURG MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

The American Association of Obstetricians and Gynecologists held its eleventh annual meeting at the Monongahela House, Pittsburg, Pa., Sept. 20, 21 and 22, 1898. By common consent of the members the meeting was admitted to be one of the most interesting and instructive in the history of the association. The local members constituted a committee of arrangements, and as far as possible, had arranged every detail for the successful holding of both the scientific and social meetings.

During their stay here the association maintained its reputation of being a working body, only one evening being given up to social festivities.

Promptly at 9.30 on Tuesday morning the President, Dr. Chas. A. L. Reed, of Cincinnati, called the meeting to order in business session. Drs. J. D. Thomas, W. S. Langfitt, J. C. Dunn, Marcus Cameron and Thomas McCann, of Pittsburg, were elected members. The chairman of the committee of arrangements welcomed, in a very few words, the association on behalf of the medical profession of Pittsburg and vicinity, after which he introduced Lieut. Gov. Walter Lyon, who, in a very eloquent address, welcomed the association on behalf of the city of Pittsburg and the State of Pennsylvania.

The meeting then immediately began its elaborate program, which was entirely devoted to the consideration of topics connected directly or indirectly with pelvic or abdominal surgery and obstetrics.

The program was a very extensive one and the papers were all well prepared and showed their authors to be masters in the subjects of which they wrote. One of the most interesting features of the convention and perhaps to the auditor the most instructive, was the very animated discussions which followed the reading of the papers. Differences of opinion were courteously but very emphatically expressed, all participating manifesting an anxious desire to elicit facts and arrive at just conclusions. Contrary to what is often asserted of a body of specialists there was but little evidence of that sentiment—"Ours is the only specialty."

Narrowmindedness was not granted a seat in the convention, occasionally it lifted up its head to be immediately trampled upon in such an impressive manner as to put it in immediate hiding. Among the papers which elicited the most discussion was that of Dr. F. Blume, of Allegheny City, on "Some of the complications following vaginal hysterectomy in pelvic suppuration; with remarks on the objections to this operation." "Septic infection of ovarian cystoma," by Dr. Chas. Green Cumston, of Boston. "The surgical treat-

ment of intussusception in infants," by Dr. Henry Howitt, of Guelph, Canada. "The treatment of cancer of the uterus," by Dr. L. S. McMurtry, of Louisville, Ky. "Nursing in abdominal surgery," by Dr. Jos. Price, of Philadelphia. "Extra uterine pregnancy (with specimen); mature fetus; remains born seventeen years after completion of gestation term; condition eventually complicated with ovarian cystoma," by Dr. W. J. Asdale, of Pittsburg. "Relation of nervous affections to diseases of the female pelvic organs," by Dr. Sherwood Dunn, of Boston, Mass. "Graver forms of nerve disturbances due to organic changes in the genital organs," by Dr. Wm. H. Humiston, of Cleveland, Ohio. "Relation of rectal diseases to nervous disorders in women," by Dr. Joseph M. Matthews, of Louisville, Ky., and Pres.-elect of the American Medical Association. "Albuminuria complicating gynecological operations," by Dr. Rufus B. Hall, of Cincinnati. "Resection of the cecum," by Dr. J. Henry Carstens, of Detroit, Michigan. "Clinical observations based on over 100 abdominal section for ovarian tumors, by Dr. X. O. Werder, of Pittsburg. "Treatment of granular erosion of the cervix by ligation of the cervical vessel," by Dr. Todd Gilliam, of Columbus, Ohio. The fact that so much stress was put upon the care of the toilet in abdominal and pelvic work, as a *sine qua non*, should emphasize that fact. A certain percentage of deaths is unavoidable, but a large proportion of the deaths that do occur are due to faulty technique. Absolute cleanliness, therefore, is essential to success. Every operator, assistant and nurse should have an "aseptic conscience." "The evolution of gynecology" was handled admirably by Dr. C. L. Reed in his official address as President.

The specialist should be evolved from the general practitioner. The immediate entering upon a specialty, upon graduation was deprecated. This course makes narrow minded specialists. The fact was clear-

ly demonstrated that those nurses who first graduated from a general hospital training school and then took a special course in gynecological nursing made the best special nurses.

The necessity for the early diagnosis of uterine cancer by the general practitioner was very forcibly urged. In no other way can we hope to decrease the mortality from this dread disease. Late operations for it are, as a rule, worse than useless. The selection of the vaginal route for hysterectomy was discussed pro and con at great length. This operation is not in as great favor as it was among the members of the association, and if we are to judge from the sentiments expressed will not be selected so frequently in the future.

The papers upon the relation of nervous and mental affection to diseases of the pelvic organs, brought up the question of the necessity of a gynecologist on the "staff of hospitals for the insane." The opinion was universal that great good might result, under proper restrictions. Fears were entertained of the abuses which might follow. This is a problem which should be solved, because of its necessity from a humanitarian standpoint.

In the opinion of the writer the nearest approach to safety would be the appointment of a board of three or five specialists who should, on the call of the attending physician, visit the asylums in the state once in 3 or 4 months, and decide upon the cases where operations would be justified. The opening of the gates to promiscuous spaying would lead to great abuse.

Arrangements had been made for clinics at the West Penn, Mercy, Passavant and the South Side Hospitals, and the association and visitors had the opportunity of seeing the skillful work of Drs. Joseph Price, of Philadelphia, Carstens, of Detroit, Reed, of Cincinnati, McMurtry and Matthews, of Louisville, Cumston and Dunn, of Boston, Asdale and Werder, of Pittsburg,

Ross, of Toronto, Canada, and Davis, of Birmingham, Alabama.

On Wednesday evening the association was the guest of the Western Pennsylvania Medical College, at a banquet served at the Monongahela House. Dr. W. J. Asdale, of Pittsburg was master of ceremonies and had arranged a course of post-prandial addresses which proved to be of a high order.

Dr. E. J. Ill, of Newark, New Jersey, was elected president for the ensuing year. The next meeting will be held in Indianapolis, Indiana, December, 1899. J. M. D.

THE RECORD OF THE LAWRENCE SAND FILTER.

The historical sand filter at Lawrence, Mass., has now been in operation about four years, and its bacterial efficiency and influence in preventing typhoid fever, have increased year by year.

Before the water was filtered, the annual death rate from typhoid fever was very high, owing to the fact that the drinking water was obtained from the Merrimac river, nine miles below Lowell, whose sewage emptied into the stream. In 1887 the deaths from typhoid fever in Lawrence were 11.75 per 10,000 of the population; in 1888, 12; in 1889, 13.75; in 1890, 13.33; in 1891, 12.20, and in 1892, 11.11. In 1893 the filter was built, and during a portion of the year filtered water was used. In 1894, the first entire year during which filtered water was used, the death rate from typhoid fever dropped to 5 per 10,000; in 1895, at was 3.07; in 1896, 1.86, and in 1897, 1.62.

The bacterial efficiency during 1894, 1895 and 1896 was, respectively, 98.46 per cent., 98.22 per cent., and 99.32 per cent. These figures are given by H. W. Clark, chemist of the State Board of Health of Massachusetts, in the *Public Health Journal*.

The real efficiency of the filter is doubtless even greater than indicated by the figures given, for it is said that a number of the fatal cases reported since the filter has been in operation were operatives in the

large mills, who in spite of the warnings, drank the unfiltered water piped into the mills. K.

EDGED TOOLS.

A lamentable fact which one is reluctantly forced to recognize is the astonishing ignorance in medical matters of well educated and presumably sensible people and their readiness to tamper with their health by dosing themselves habitually with some compound of unknown composition, preferably a "tonic." Men who would not attempt to treat a valuable horse without an expert medical opinion, consider themselves quite competent to prescribe for themselves and their wives and children. In many a household there is a bottle of formidable proportions which is regarded as a sort of liquid vitality, and from which the head of the family dispenses, as he thinks, health and energy if one of the members looks pale, lacks appetite, has a headache, or in his opinion "needs a tonic." Another sad side of the matter is the number of women who take some patent headache preparation while really ignorant of its composition. The man who takes whisky before eating, to give him an appetite, at least knows what he is doing; the woman who takes some harmlessly named preparation to allay pain does not; and when finally a physician is called in, he often finds her with shattered nerves, weakened will and broken health, a victim of cocaine, morphine or some other insidious drug.

The physician's inability to cure obscure symptoms is often due to his ignorance of his patient's playing with these "edged tools." J. B. R.

EDITORIAL NOTES.

"THE COURSE OF THE SENSORY FIBERS IN THE SPINAL CORD."

Through an inadvertance, the statements in an editorial under the above heading in the last number of the *Journal* contradict themselves. This editorial, in part, reads:

"The distinguished anatomist, Van Gehuchten, contends that pain sensations are conveyed to the opposite side of the cord through the gray matter from cells whose axis cylinders then chiefly constitute the column of Gowers. Lloyd, in a well-studied case, published in the current number of *Brain* concurs in the view of Van Gehuchten, holding that painful and thermic sensations are transmitted upward through the posterior columns (Goll and Burdach) of the same side."

This paragraph should read as follows: "The distinguished anatomist, Van Gehuchten, contends that pain and thermic sensations are conveyed to the opposite side of the cord through the gray matter to cells whose axis cylinders then chiefly constitute the column of Gowers. Lloyd, in a well-studied case, published in the current number of *Brain* concurs in this view of Van Gehuchten, holding that painful and thermic sensations are transmitted upward through the *antero-lateral ascending tract of Gowers of the opposite side, while tactile (common) sensation is conducted through the posterior columns (Goll and Burdach) of the same side.*"

With this correction the remainder of the editorial becomes intelligible. T. D.

PHILADELPHIA NOTES

Dr. John B. Roberts has resigned as president of the board of trustees of the Philadelphia Polyclinic and College for graduates in medicine.

The new classes at the several medical colleges show a large increase over those of last year. The introductory lecture at the University of Pennsylvania was given on October 1, and at Jefferson and the Medico-Chirurgical on October 3.

Owing to the illness of Dr. John Ashurst, professor of surgery in the University of Pennsylvania, Dr. J. William White, professor of clinical surgery will, for the present, have charge of the department of surgery.

The vacancy in the medical faculty of the University of Pennsylvania, caused by the death of Dr. William Pepper, has not been permanently filled. The faculty, at a recent meeting, recommended that for the present Dr. James Tyson, professor of clinical medicine, be given charge of the department of medicine, and that under his supervision, didactic lectures on medicine be delivered by Dr. John H. Musser, Dr. M. Howard Fussell, Dr. Alfred Stengel and Dr. Frederick A. Packard.

The final plans for the new building of the Jefferson Medical College, which is now in course of erection at the northwest corner of Tenth and Walnut streets, have been approved by the Trustees of the institution, and the structure when completed will be one of the handsomest of the kind in this country, and will cost about \$250,000. The building will be of the Italian Renaissance style and will be six stories in height, having a frontage on Walnut street of 118 and 105 feet on Tenth street. It is expected to be completed by June 1, 1899.

The Medico-Chirurgical College has purchased the property at Seventeenth and Cherry streets, on which it is proposed to erect, at an early date, commodious laboratory buildings, the designs for which are at present under advisement. The laboratory system of the college will thus include rooms properly arranged for the study of clinical medicine, physiology, hygiene, pathology, bacteriology, chemistry, materia medica and pharmacology. They will be completely fitted up with all the instruments and apparatus needed for the scientific study of these fields of research.

By the death of the late Colonel Joseph M. Bennett, the University of Pennsylvania has received a valuable bequest. By the terms of Col. Bennett's will the University will receive the real estate known as the Chestnut Street Opera House, with all fixtures and machinery, embracing 1023-25-27-

29 Chestnut street, together with all the property in the rear of same, and of 1021 Chestnut street, and four properties on Walnut street below Thirty-fourth. It is specifically stipulated in the will that this property shall be used in the furtherance of the cause of higher education for women. On the Walnut street property bequeathed by Col. Bennett the University proposes to erect a woman's annex, which shall bear the same relation to Pennsylvania as does Radcliffe College to Harvard. The only departments of the University now open to women are the post-graduate and the biological. The idea of co-education as in operation in many smaller institutions throughout the country will not, it is expected, be carried out at Pennsylvania. There will be no mixed classes, but the women will receive the same instruction as other students, but in a separate building. D. W. N.

SPINACH.

Spinach, it is said, is peculiarly rich in iron of an assimilable nature.. It is consequently valuable, not only as a good food, but as a ferruginous tonic at the same time. Iron is a component part of chlorophyll, and its superabundance in spinach may doubtless be referred to the large amounts of this modified form of protoplasm which its cells contain. K.

NUMBER OF MEN KILLED IN BATTLE IN THE WAR WITH SPAIN.

According to the *Buffalo Medical Journal* the official records of the War Department in Washington up to date indicate a total of 264 soldiers killed in battle, in the war with Spain. Of these a disproportionately large number, 33, were officers. K.

THE FORMATION OF HOMATROPINE

Atropine heated with potassium hydrate yields tropic acid and tropine with evolution of ammonia. Tropine and mandelic acid evaporated with dilute hydrochloric acid yield homatropine. The salts of this artificial alkaloid act much more rapidly as mydriatics and their effects pass off much more rapidly. K.

Reviews.

THE OHIO STATE MEDICAL SOCIETY. Transactions of the Fifty-third Annual Meeting. Held at Columbus, Ohio, May 4, 5, 6, 1898. Edited by P. Maxwell Foshay, M.D., Cleveland, Ohio. Press of J. B. Savage, Cleveland, Ohio.

This volume contains the minutes of the meeting, including papers read and the discussions thereon, lists of the officers, permanent members and committees, and the constitution and by-laws of the society; also a list of the officers and members of the local societies auxiliary to the State society. The papers read, four of which are illustrated, and the discussions, are good, and the volume is a credit to the society and to the editor. The Address in Surgery and the Address in Medicine were given by non-residents, the former by Dr. Nicholas Senn and the latter by Dr. Hobart A. Hare. C. L. S.

LECTURES ON TUMORS.—By John B. Hamilton, M. D., LL.D., Professor of Surgery, Rush Medical College and Chicago Polyclinic, etc. Third Edition. 21 Illustrations. Price, \$1.25 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898.

This book, as the author states in the preface of the third edition, is not an exhaustive study of tumors, nor operative surgery of tumors, but, as expressed in the first edition, a condensed and precise outline of the pathology of tumors for students. The author has fulfilled his purpose extremely well in this third edition. The pathology, nomenclature and outline of treatment is logical and is simplicity itself. This is what the student needs when he first undertakes the study of tumors. Larger and more explicit treatises on tumors are best studied after considerable experience in the wards of a hospital or in the pathological laboratory.

The appendix in conjunction with the introductory chapter on the preservation and preparation of specimens, is very concise and of great value to a student. J. H. A.

HAY-FEVER AND ITS SUCCESSFUL TREATMENT. By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia, etc. Price, \$1.00 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898.

The author of this work, although he does not specifically commit himself to any single thing, believes that the large majority of cases of hay-fever are due to irritant substances, pollen, etc., in the nostrils. In keeping with this belief, he uses, as a means of cure, antiseptic applications by means of which the canals are thoroughly cleaned daily during the time when the attack

ordinarily is to be expected. His conclusions appear rational, and the results obtained by the treatment advocated prove its efficacy.

ATLAS OF SYPHILIS AND THE VENEREAL DISEASES. Including a Brief Treatise on the Pathology and Treatment. By Professor D. Franz Mracek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York; etc. With 71 Colored Plates. Price, \$3.50, Net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

This work is devoted mainly to brief histories of selected cases of syphilis, gonorrhea and the venereal lesions. Colored plates are placed on the pages opposite the clinical histories. An epitome on the above subjects and a brief index cover a little less than the latter one-third of the work. The case histories are concise enough. The colored plates are probably the best in any recent work of this class. In reading the histories the reader is inconvenienced by having to refer to formulæ in the latter part of the work. The cases selected are those most frequently seen in practice. The average American practitioner will be somewhat astonished when he reads clinical histories of cases of syphilis pronounced cured after the use of only twenty to thirty mercurial inunctions. The author also believes in treating every suspected case as if the diagnosis of syphilis had been already confirmed. As a substitute for extensive clinical observation this work will be useful.

E. B. B.

ELEMENTARY BANDAGING AND SURGICAL DRESSING, WITH DIRECTIONS CONCERNING THE IMMEDIATE TREATMENT OF CASES OF EMERGENCY, FOR THE USE OF DRESSERS AND NURSES. By Walter Pye, F. R. C. S., Late Surgeon to St. Mary's Hospital. Revised and in Part Re-Written by G. Bellingham Smith, F. R. C. S., Surgical Registrar, Guy's Hospital. Seventh Edition. Philadelphia: W. B. Saunders, 925 Walnut St.

This little pocket edition on bandaging, etc., may be of service to nurses who do not have access to surgical works in which this subject is usually included, or possibly students might use it to refresh their memory at odd spare moments.

ATLAS AND EPITOME OF OPERATIVE SURGERY. By D. Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized Translation from the German. Edited by J. Chalmers Da Costa, M. D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; etc. With 24 Colored Plates and 217 Illustrations in the Text. Price, \$3.00, Net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

Surgical anatomy with the main points of me-

chanical procedure in ordinary general operations, constitute the bulk of this work. Anatomical landmarks are carefully noted. Operations on the nose, throat, eye, ear and female generative organs, are omitted. Much emphasis is placed on the utility of colored plates, as substitutes for dissection and clinical observation. The more extensive use of the circular saw in bone surgery and the substitution of suprapubic cystotomy for the perineal operation are factors of interest in recent progress. Ligation of blood vessels, plastic operations about the face, and the resections of joints are among the more interesting demonstrations. Some of the imitation wood-cuts are faulty, fig. 188 on page 305 is an example of inexcusable inaccuracy. The arrangement of the work is scarcely satisfactory. On the whole this number of the series will not compare favorably with the numbers which have preceded it.

E. B. B.

NEW BOOKS.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M. D., Fellow of the Royal Society, Professor of Medicine in the Johns Hopkins University, etc. Third Edition, Revised and Enlarged. New York: D. Appleton & Co., 1898.

Transactions of the Maine Medical Association, 1898. Vol. XIII., part I. Portland: Stephen Berry, Printer, 1898.

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania; etc. Containing the pronunciation and Definition of over 26,000 of the terms used in Medicine and the Kindred Sciences, Along with over 60 Extensive Tables. Price, \$1.25 net. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

Essentials of Materia Medica, Therapeutics, and Prescription Writing, Arranged in the Form of Questions and Answers, Prepared Especially for Students of Medicine. By Henry Morris, M. D., Fellow of the College of Physicians of Philadelphia; etc. Fifth Edition, Revised and Enlarged. Price, \$1.00. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

The Care of the Baby. A Manual for Mothers and Nurses, Containing Practical Directions for the Management of Infancy and Childhood, in Health and in Disease. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; etc. Second Edition, Revised. Price, \$1.50. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

Practical Diagnosis. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Third edition, enlarged and thor

oughly revised. In one octavo volume of 615 pages, with 204 engravings and 13 full-page colored plates. Cloth, \$4.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Pathology and Morbid Anatomy. By T. Henry Green, M. D. Lecturer on Pathology and Morbid Anatomy at Charing-Cross Hospital Medical School, London. New (8th) American from the eighth and revised English edition. In one royal octavo volume of 600 pages, with 215 engravings, many being new and a colored plate. Cloth, \$2.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

A Manual of Otolology. By Gorham Bacon, A.M., M.D., Professor of Otolology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M. D., Professor of Otolology in the Harvard Medical School, Boston. In one 12mo. volume of 400 pages, with 109 engravings and 1 colored plate. Cloth, \$2.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

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Manual of Chemistry.—A Guide to Lectures and Laboratory work for Beginners in Chemistry. A Text-book specially adapted for Students of Pharmacy and Medicine. By W. Simon, Ph. D., M. D., Professor of Chemistry and Toxicology. College of Physicians and Surgeons, Baltimore; Professor of Chemistry in the Maryland College of Pharmacy. New (Sixth) edition. In one 8vo. volume of 532 pages, with 46 engravings and 8 colored plates illustrating 64 of the most important chemical tests. Price, Cloth, \$3.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Twentieth Century Practice.—An International Encyclopedia of Modern Medical Science. By Leading authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City. In Twenty Volumes. Volume XV., "Infectious Diseases." New York: William Wood & Company. 1898.

Transactions of the American Surgical Association. Volume the Sixteenth. Edited by De Forest Willard, A. M., M. D., Ph. D., Recorder of the Association. Printed for the Association. For sale by William J. Dornan, Philadelphia. 1898.

REPRINTS AND PAMPHLETS.

Notes on Disinfectants and Disinfection. By A. G. Young, M. D., Secretary of the State Board of Health of Maine. Reprinted from the Tenth Report, Augusta. Kennebec Journal Print. 1898.

The Aseptic Animal Suture: Its Place in Surgery. By Henry O. Marcy, M. D., Boston. Reprinted from the Journal of the American Medical Association, August 20, 1898.

Endemic Leprosy in Louisiana, With a Logical Argument for the Contagiousness of this Disease. By Isadore Dyer, M. D., New Orleans. Reprinted from the Philadelphia Medical Journal, September 17, 1898.

On the Occurrence of Hydrogen Sulphide in the Natural Gas of Point Abino, Canada; and on a Method for the Determination of Sulphur in Gas Mixtures. By Professor Francis C. Phillips, Allegheny. Reprinted from the Journal of the American Chemical Society, vol. xx., No. 9, September, 1898.

Rheumatic Pharyngitis. By Lewis S. Somers, M. D., Philadelphia. Reprinted from the Medical News, July 16, 1898.

Some of the Disadvantages of Vaginal Drainage of Pelvic Abscess. By Charles P. Noble, M. D., Philadelphia. Reprinted from the American Gynecological and Obstetrical Journal for March, 1898.

The Conservative Treatment of Pelvic Suppuration of Puerperal Origin. By Charles P. Noble, M. D., Philadelphia. Reprinted from the Philadelphia Medical Journal, July 28, 1898.

The Effect of Hypertrophy of the Inferior Turbinal of the Nasal Septum. By Lewis S. Somers, M. D., Philadelphia. Reprinted from the University Medical Magazine, July, 1898.

A Contribution to the Study of the Symptoms of Chronic Urethritis. By Ferd. C. Valentine, M. D., New York. Reprinted from the Journal of the American Medical Association, August 27, 1898.

Contributions to Orthopedic Surgery. By Dr. James W. Cokenower, Des Moines, Iowa.

A Plea for Posterity. By A. L. Russell, M. D., Midway, Pa. Reprinted from the Philadelphia Medical Journal, August 27, 1898.

Two Cases of Fibroma of the Broad Ligament. By John C. Da Costa, M. D., Philadelphia. Reprinted from the American Journal of Obstetrics, Vol. xxxviii, No. 3, 1898.

Post-Operative Insanity. By R. Harvey Reed, M. D., Rock Springs, Wyoming. Reprinted from the Journal of the American Medical Association, August 27, 1898.

A Case of Multiple Mixed-Celled Sarcoma of the Medulla Oblongata and Pons Varolii. By Oliver H. Fretz, M. D., Quakertown, Pa. Reprinted from the Philadelphia Polyclinic, Vol. vii., No. 35, August 27, 1898.

Strangulated Hernia and Obstruction of the Bowels; Importance of Quick Operative Interference, With Two Autopsies and References to Other Cases. By G. W. Hiatt, M. D., Pittsburg. Read Before the Allegheny County Medical Society, June, 1898.

Communications.

A COMMENT ON THE PAPER WRITTEN BY DR. LADD.

Towanda, Pa., Sept. 7, 1898.

Editor of the Pennsylvania Medical Journal:

In the August number of the "Journal" is an article read by Dr. Ladd before the Medical Society of the State of Pennsylvania, in which he asks them to "follow a country practitioner for a few minutes in a round of abdominal surgical work in the mountains of Bradford county." While I know the doctor's time allotted by the society was limited, yet the facts demand that he should have been more explicit and stated that the society was asked to "follow" more than one practitioner, or, in other words, more than one operator was concerned in the cases cited.

In the first case stated Dr. C. M. Pratt was the operator, assisted by Drs. Ladd, D. L. Pratt and myself. Dr. Ladd was interested in the case the same as Dr. D. L. Pratt and myself, as consultants and assistants.

The third case cited was operated on by the writer, assisted by Drs. Payne and Ladd. The latter saw the case once previously in consultation, was present at the operation, and, to my knowledge, did not see the case again, and only knew of the result and the birth of the child as they were related to him by the writer.

Yours truly,

S. M. Woodburn.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

The eighth annual meeting of the Western Surgical and Gynecological Association will be held at Omaha, December 28 and 29, 1898. Titles of papers from some of the leading surgeons of the West are already in the hands of the secretary, and the coming meeting promises to be the most interesting yet held. The local committee of arrangements at Omaha is actively preparing for the entertainment and comfort of those who attend. Surgeons and gynecologists, and those interested in the progress of these specialties, are cordially invited to affiliate themselves with us. The secretary will be glad to send application blanks. Titles of papers should be sent to the secretary as soon as possible, but not later than November 20, to insure a place on the program.

Geo. H. Simmons, Secretary.

D. S. Fairchild, President, Lincoln, Neb.

Clinton, Iowa.

Treatment of Epitaxis — *Hutchinson*. —

The patient soaks his hands and feet in water as hot as can be borne. This method has never failed the author, even in obstinate cases. — *Ex.*

MEDICAL EXAMINING BOARDS OF PENNSYLVANIA.

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PRELIMINARY REQUIREMENTS OF THOSE WHO EXPECT TO PRACTICE MEDICINE IN PENNSYLVANIA.

The Medical Council Adopted the Following Rules
September 24, 1895:

A preliminary examination shall be required from all candidates for medical licenses, in the following branches, to wit: arithmetic, grammar, geography, orthography, American history and English composition.

The diploma of a college, diploma of an academy, seminary, normal school, or high school; or a teachers' permanent certificate; or a students' certificate of examination for admission to the freshman class in a literary college, shall be accepted in lieu of such examination.

These requirements shall not apply to those now undergoing tuition, but shall go into effect and be operative on and after the first day of March, 1900.

EXTENT OF THE EXAMINATION.

The following schedule states the amount of knowledge expected by the Medical Council of those who take its examination:

ARITHMETIC.—Embracing notations, numerations, fundamental rules, multiples, factors, fractions, both common and decimal, ratio and proportion, percentage, denominate numbers, including metric system, mensuration, square and cube root.

GRAMMAR.—Embracing the uses of capitals, rules for punctuation, parts of speech, declensions, the formation of plurals and possessives, distinction of gender, comparison, classification and properties of verbs, elementary knowledge of the syntax of words, and analysis of easy sentences.

GEOGRAPHY.—Including the outlines of mathematical, statistical, political, with some of the elements of physical, the political divisions, routes of commerce and travel, staple productions of the different sections of the United States.

ORTHOGRAPHY.—Such words as are commonly used in current literature.

AMERICAN HISTORY.—Geography of North America, the early discoverers, the character and mode of life of the natives, our forms of government, from Colonial times to the present, embracing the period of the Revolution, Declaration of Independence, Federal Constitution, successive administrations, with important events under each, general principles of civil government, civil war and general development. Special attention given to the history of Pennsylvania.

ENGLISH COMPOSITION.—A general knowledge of the varieties in both prose and poetry.

Sentence: Embracing capitalization, punctuation, grammatical classifications according to form and use, words into phrases, phrases into clauses.

Paragraph: Uses of the paragraph, requisites in its construction, combination of miscellaneous sentences into paragraphs.

Prose Composition: Embracing common business forms and the principal varieties of letter-writing, transformation of poetry into prose.

Theme: Its form or outline, introduction, discussion, conclusion, its kind, narrative, descriptive, persuasive, or argumentative.

TIME AND PLACES OF EXAMINATIONS.

The examinations will be held October 29th, at 9 o'clock A. M., Philadelphia, in the Robert Vaux School Building, Wood street, east of 12th street, and in the High School, Sherman avenue, Allegheny City. Both will be under the supervision of Prof. Nathan C. Shaeffer, Supt. of Public Instruction.

W. S. Foster, Secretary.

ON THE NECESSITY OF PRECAUTIONS REGARDING THE URINE OF TYPHOID PATIENTS.

That typhoid bacilli could not infrequently be detected in the urine has long been known, but the fact has not received much attention in considering the prophylaxis of the disease. How important a factor in the spread of typhoid this nephritic excretion of the germs may be is well shown by a recent observation of Petruschky (*Centralblatt f. Bacteriologie*, XX., 14), who has found that during convalescence the urine not infrequently becomes cloudy with the germs, while at the same time they are not, in some cases, to be detected in the feces. The number of typhoid bacilli in such urine is something fabulous; in one case Petruschky found five millions to the cubic centimeter; in another 172 millions. This indicates the necessity for extreme caution on the part of attendants in the disposal of the urine, which is naturally much more apt to be handled carelessly than feces.—H. G. West. *Med. Rev.* (*Med. Review of Reviews*.)

Monthly Reports of County Societies.

REPORT OF THE YORK COUNTY MEDICAL SOCIETY.

Regular monthly meetings are held on the first Thursday of every month. The membership at present is eighty, a few of whom are honorary members from adjoining counties. A feature of our meetings is the report and discussion of interesting cases and prevailing diseases. It is pleasing to note the increased interest that has been manifested of late, not only in the numerous accessions but also in the attendance and in the discussions. During the last three years we have had arranged a yearly program which was followed, giving all members an opportunity of knowing what papers would be presented, thus enabling all to engage intelligently in the discussion. Since we have adopted the program system, we are seldom without papers, and so far comparatively few members failed to materialize when their subject was due. We have the program arranged by a special committee, at the close of the year, and adopted by the society at the first regular meeting in the new year. From the good effects our society has realized by the above system, I felt incited to report our progress, hoping it may be an incentive to some others, who may share the same benefits.

Appended is the program for the present year:

PROGRAM OF THE YORK COUNTY MEDICAL SOCIETY FOR 1898.

By a resolution of the York County Medical Society, papers are limited to fifteen minutes, the opening of the discussion to ten minutes, and other speakers on the papers to five minutes.

THE PROGRAM IS AS FOLLOWS:

February.—Papers on "Dropsy," Causation, Symptomatology and Pathology, by Dr. J. C. May, of Manchester, Pa. Treatment, by Dr. W. B. Bigler, of Tilden, Pa. Discussion led by Dr. J. C. Channel, of Wrightsville, Pa.

March.—Paper on "Mastitis," by Dr. G. W. Bahn, of Spring Grove, Pa. Paper on "Phleg-

masia Alba Dolens," by Dr. Laura J. Dice, York, Pa. Discussion led by Dr. Jonas Deisinger, York, Pa.

April.—Paper on "Urinalysis," Chemical and Microscopical, by Dr. W. C. Stick, of Glenville, Pa. Paper on "Diagnostic Significance of Urinary Sediments," by Dr. Frank Horning, of Hellam, Pa. Discussion led by Dr. Charles Rea, York, Pa.

May.—Papers on "Hernia," Anatomy, Etiology, Various Forms, Pathology and Diagnosis, by Dr. J. H. Bittinger, of Hanover, Pa. Treatment, by Dr. William F. Bacon, York, Pa. Discussion led by Dr. M. J. McKinnon, York, Pa.

June.—Paper on "Dietetics in Acute Diseases," by Dr. E. W. Meisenhelder, York, Pa. Paper on "Hygiene in the Sick Room," by Dr. Roland Jessop, York, Pa. Discussion led by Dr. G. W. Simpson, York, Pa.

July.—Paper on "Blood Examination in Disease," by Dr. H. R. Lecrone, York, Pa. Paper on "Bovine Tuberculosis and Its Relation to the Infection of the Human Subject," by Dr. S. G. Hendren, York, Pa. Discussion led by Dr. J. Frank Small, York, Pa.

August.—Papers on "Insanity," Forms, Differential Diagnosis and Pathology, by Dr. C. F. Spangler, York, Pa. Treatment, by Dr. J. B. Kain, York, Pa. Discussion led by Dr. B. F. Spangler, York, Pa.

September.—Papers on "Chronic Nephritis," Etiology, Pathology, and Diagnosis, by Dr. J. C. Murphy, York Haven, Pa. Treatment, by Dr. C. G. Hildebrand, Loganville, Pa. Discussion led by Dr. J. R. Brodbeck, Jefferson, Pa.

October.—Paper on "Hemiplegia," Etiology, Pathology, Diagnosis and Treatment, by Dr. J. A. Stoner, York, Pa. Paper on "Electro-Therapeutics," by Dr. H. H. Jones, Jefferson, Pa. Discussion led by Dr. L. E. Zech, of York New Salem, Pa.

November.—Paper on "Insomnia," Causes and Treatment, by Dr. J. M. Hyson, of Red Lion, Pa. Paper on "Arterio-Sclerosis," by Dr. A. Myers, York, Pa. Discussion led by Dr. C. F. Miller, of Muddy Creek Forks, Pa.

December.—Paper on "Lithaemia," Etiology, Pathology and Treatment, by Dr. E. S. Mann, of Dallastown, Pa. Paper on "Diuretics," name Six, When, Why and How to be Used, by Dr. A. B. Shatto, of Red Lion, Pa. Discussion led by Dr. J. A. Armstrong, of Hellam, Pa.

Members are requested to report and present any cases of interest at all meetings, and especially such cases that are in harmony with the subject under consideration.

G. E. Holtzapple, Chairman, York, Pa.

W. H. Wagner, York, Pa.

S. K. Pfaltzgraff, York, Pa.

I. H. Betz, York, Pa.

J. R. Brodbeck, Jefferson, Pa.

G. E. Holtzapple,

Corresponding Secretary, York County Medical Society.

Excerpts from Current Medical Literature.

RECENT PROGRESS IN CUTANEOUS MEDICINE AND SURGERY.

BY WILLIAM B. EWING, M. D., OF PITTSBURG, PA.

ETIOLOGY OF ZOSTER.

Hay (*Journal of Cutaneous and Genito-Urinary Diseases*, 1898. Page 1), after an exhaustive research of the literature of zoster and from his own observations, concludes as follows:

(1) Among a number of zosteriform eruptions, zoster is a distinct disease that runs a definite course.

(2) True zoster is of an infectious origin.

(3) The herpetic eruption in genuine zoster is preceded by adenopathy in the neighborhood of the eruption and often by bilateral or even general adenopathy.

(4) The eruption is in the nature of a trophic disturbance and probably the infective agency has a selective affinity for the sympathetic and ganglia, and segments of the cord and tracts supplied from these segments, are affected rather than any individual spinal nerve.

STREPTOCOCCUS, THE CONSTANT PATHOGENIC AGENT IN IMPETIGO AND ECTHYMA.

Balzer and Griffon (Soc. de Biologie. Reported by Mercier in *La Presse Med.*, No. 89, 1897. p. 80.)

The authors bacteriologically examined fourteen cases of ecthyma and thirty-one cases of impetigo, and in every instance, without exception, found streptococci. The inoculation of rabbits gave rise to abscesses, erysipelas, and fatal septicaemia. The authors conclude that streptococci, and not staphylococci, are the pathogenic agents in the production of impetigo and ecthyma.

APPLICATIONS OF TREATMENT WITH IODIDES AND THE CHOICE OF IODIDE.

Briquet (*Journal des Mal. Cutan. et Syph.* No. 12, December, 1897,) after discussing

the various uses of the iodide treatment and the various effects of the different iodides, the author draws the following conclusions.

1. The iodide of potassium is preferable to the iodide of sodium, except in diseases of the respiratory system, and certain rheumatic pains.

2. If the potassium iodide is badly tolerated, either at first or in the course of treatment, the sodium salt must be resorted to; its therapeutic value is undeniably only slightly less than that of the potassium iodide.

3. It might be practicable to begin always with the sodium salt, which is generally better tolerated, and, as soon as toleration is established, to pass on to the potassium iodide.

4. Admitting that the prolonged administration of potassium iodide has a depressing effect, which is not the case with the iodide of sodium, it is advisable in cases of prolonged treatment to alternate the two salts with a view to obtaining the maximum useful effect with the minimum depression. As regards the use of other iodides, the author states that the iodide of ammonium has so many disadvantages that it had better be reserved for cases of grave syphilis and cutaneous lesions where the potassium salt has failed. Iodide of strontium has only disadvantages, and ought therefore to be entirely discarded.

The iodide of calcium can always be replaced by either the sodium or potassium salt, and therefore may be discarded. The iodide of lithium is too feeble to merit employment. The iodide of rubidium appears to be a valuable acquisition to the therapeutic list; it is often equal in activity to the potassium salt in syphilis, tastes less disagreeable, and is better borne. Although keeping less well than the potassium salt, it keeps better than most of the others. The difficulty of preparation, and its high price, will prevent its general use, and as it is never superior in activity to the potassium salt, it may be reserved for cases in which the po-

tassium iodide is not tolerated, and the sodium salt proves inert, as, for example, in some cases of syphilis.

THE PERMEABILITY OF THE SKIN.

Manassein (*Arch. fuer Dermatologie und Syphilis* Band XXXVIII. Heft 3), who had the opportunity to examine sections of skin obtained from a syphilitic subject, who died suddenly some days after using mercurial inunctions, arrives at the following conclusions concerning the permeability of the skin: The living, uninjured skin of mammals is impermeable for salves with the usual inunction methods. With the usual inunction methods, salves may penetrate to varying depths into the hair follicle.

Current Medicine.

THE NEWLY DISCOVERED ATMOSPHERIC GASES.

This atmospheric air of ours is positively a boxful of surprises! Since Lavoisier's time, we have believed that the air is a mixture of two gases, oxygen and nitrogen—approximately 21 parts oxygen to 79 parts nitrogen. To this was added a little carbonic acid, some water-vapor, a little ozone, and a little nitrate of ammonia after a thunder-storm. Such was the classic composition of the atmosphere. So we were quite stupefied when in 1895 Lord Rayleigh demonstrated that an important element had been overlooked—argon. Argon was the cause of a great deal of discussion, but its existence was acknowledged to be certain. Since then we have said that the air is composed of oxygen, nitrogen, and argon.

Scarcely four years have elapsed, and we are already forced to modify our recently acquired knowledge. Messrs. Ramsay and Travers have just discovered a new constituent of the air; and they have sent specimens of it to M. Berthelot. This gas having gone unperceived up to our own epoch, Mr. Ramsay has baptized it with the significant name of "krypton" (hidden). M. Berthelot has proposed a more harmonious name, "eosium" (Greek eos, aurora), because the characteristic spectral ray of this gas is found

also in the spectrum of the aurora borealis. How did Messrs. Ramsay and Travers get hold of this new gas?

It is well known that air is now liquefied easily under a pressure of 180 atmospheres and at a temperature of -191° . Mr. Ramsay devoted much of his time last winter to the slow distillation of liquid air. Because of the different boiling points of the liquids entering into the composition of the liquefied air, the most volatile liquids, such as the nitrogen, are gotten rid of, and the oxygen is disposed of by absorption; thus the argon remains. The English scientists thus prepared a bottle of liquid argon. And by further evaporation and chemical treatment they finally obtained at the bottom of the vial a residual liquid. What was this liquid, which was not argon, although it contained traces of it? This volatile liquid gave in the spectroscope very beautiful bright lines corresponding to no known gas, one of them being the beautiful green line of the aurora borealis. So krypton was discovered. This gas has a density of 22.47, that of oxygen being 16. It is heavier than argon, less volatile than nitrogen, than oxygen, and than argon.

At the session of the Academy of Sciences, June 29, Mr. Ramsay announced the discovery of two other new gases in the air. By continuing the distillation of argon, after the isolation of krypton, he found first another gas different from the others in the characteristic lines of its spectrum. He named it "neon" (new). There remained still another substance, a solid, which was volatilized at a higher temperature. This second gas resembled argon, but had superb spectral lines; and when the electric current is passed through it, it shines with incomparable splendor. It has been named "metargon," to signify its relationship with argon. Thus, in less than a month the air has been enriched with at least three gases unknown before the month of June, 1898. And at last accounts the atmosphere had the following composition: oxygen, nitrogen, ar-

gon, krypton, neon, metargon. Is the list closed?

Perhaps not; but perhaps, on the contrary, it is already too long. For who knows whether some foreign substance may have found its way into the liquid air and, volatilizing, have given rise to deceitful spectroscopic lines? This is but a hypothesis, but we must take it into account until it has been disproved.

In any case, we must not be astonished to find that the atmosphere contains traces of gases that have long escaped the investigations of chemists. Their isolation has depended on new methods. Is not the atmosphere the residue of all the gases that since the origin of time have been unable to combine with the solids of the terrestrial crust?

The composition of the atmosphere has constantly varied during the geologic ages. At the beginning it included all the gases and the vapors of solid substances that condensed as the cooling of the globe went on. The sun's atmosphere offers us on a large scale a picture of what probably once took place in the terrestrial atmosphere. Afterward, condensation taking place and chemical combination assisting, the atmosphere became purer; little by little the gases and vapors entered into solid compounds that form the earth's crust, and nothing remained above this crust but water-vapor and gases that were either left over from the compounds or were unable to combine. The carbonic acid, once so abundant, has disappeared, by combination with calcareous substances, forming carbonate of lime; the remainder has become dissolved in water, and only very small quantities remain in the air. The excess of oxygen remains in the atmosphere with the nitrogen. But it is clear that by close search we still ought to be able to discover traces of gases that do not easily combine with the materials of the crust—for example, as argon, so called because it does not enter into combination with any known substance. After argon, we might assume that there would still exist

in the great residue of the ancient atmosphere traces of hitherto unknown gases in a free state. And the facts have demonstrated that this is the case.

Perhaps the list of new gases is yet to be completed, but evidently we shall find only traces of such. We ought to be pretty near the end. In any case, these new discoveries have a great speculative interest, and bear witness once more to the delicacy and power of the methods of investigation of modern chemistry.—Translated from *La Nature* by the *Literary Digest*.

[Since this report two more gases have, wonderful to relate, been added to the list. At the August 25 meeting of the American Association for the Advancement of Science, held in Boston, Chas. F. Brush, of Cleveland, Ohio, reported that he had found in the air a new gas seeming to have the properties ascribed to hypothetical luminiferous ether. This gas, to which he gave the name "etherion," is one ten-thousandth part as heavy as hydrogen, and conducts heat one hundred times as rapidly.]

About two weeks later than this it was announced that Professor Ramsay and Mr. Travers had discovered another elemental gas. While its spectrum is analogous to that of argon, the position of the lines is entirely different. To this gas has been given the name "xenon."—(Ed. Bulletin. Bulletin of Pharmacy.)

FEDERAL LAWS ARE ALONE ABLE TO COPE WITH FOOD AND DRUG ADULTERATIONS.

Mr. A. R. L. Dohme has a comprehensive and interesting article in the *Druggists' Circular* for July on the necessity for a national pure food and drug law. No one who has given serious thought to this subject, or casually noted the rapid increase in food adulterations, will fail to agree with Mr. Dohme that this country is sadly deficient in laws which tend toward protecting its citizens from the numerous dangers lurking in almost every article in use, either as food, drink, or medicine. It is confidently asserted by those

whose information ought to give their statements the weight of authority that in States where the most stringent laws have been enacted the sophistications in foods and medicines are on the increase. It follows, therefore, that if any further legislation of this character is sought, it should be in the form of a Federal law, provided it is determined that such an act would supplement the State laws now in force, or which may hereafter be enacted, and render them more efficient, for the experience gained under State laws of this kind clearly shows that they cannot fully accomplish the purpose for which they were enacted.

The manufacturer—who is the chief offender—cannot be reached under any State law if he is not a resident of the State, and to hold the small dealer responsible for the purity of articles of food which have been sold to him as pure, is not feasible, even if it be just. A dealer who stands well in his community will not be convicted of selling adulterated goods, if his plea is made that he has bought them for pure, and he has no means of knowing that they are not as represented.

But a greater difficulty than this is confronted in the utter unreliability of State courts, and herein is the strong argument for Federal legislation. The matter may as well be looked squarely in the face, and a confession entered without protracted argument, that our State judicial system in criminal procedure where offenses are classed as misdemeanors is a pitiable farce.

Judges of United States courts are appointed by the President, by and with the advice and consent of the Senate. The tenure of office is for life, or during good behavior. Such officer is far removed from influences, either political or personal, which contribute so largely toward debauching our State and municipal courts. Enter any court of the United States, and observe the decorum, the dignity, the exactness, the rapidity with which the majesty of the law is upheld, and punishment meted out to

offenders, then enter a police court in one of our large cities or a county court in almost any one of the States, and note the contrast. Contemplate a judicial system, the presiding officers in which are clothed with almost limitless power, and these elected nominally by the people, but in reality by the fiat of some partisan political party, then note the decisions rendered in many cases as a bid for political influence in the future or as a reward for political service in the past, regardless of law, evidence, justice, or equity!

A judge of police court in one of the large western cities within the past month heard four cases brought before him for violation of the State pharmacy law, in each one of which the accused entered a plea of guilty. He assessed a fine in each case, but immediately remitted them all, in utter disregard of the provisions of the State law, which requires that the fines must be paid into the State treasury. The attorney for the prosecution protested against the action of the court, so positively contrary to law, and in return was severely reprimanded, and as a reward for his "impudence" the cases were dismissed without form after a plea of guilty had already been accepted. This is the same judge who ordered a citizen—one evidently without a "pull"—to have his mouth washed out with a sprinkling hose for having expectorated on a neighbor's door-step. What method of irrigation he would have ordered had the prisoner committed some other offense of which he may have been capable, may be left to the imagination.

The results in trials by juries are not much better. A jury in one of the State capitols recently decided that slot machines were not gambling devices, and that the owner or operator was conducting a legitimate business. The notorious "Dutch Sugar" cases brought by the Ohio Food Commissioner a few months ago, and tried twice by juries after a contest of more than four weeks, resulted in a verdict that

this sugar was pure, not because the evidence was to that effect, but because, since the first jury disagreed, the second one must agree upon some verdict, for if no verdict were rendered no fees could be secured, and two weeks' time was too much to be given without compensation.

If the bill introduced in the House of Representatives at Washington by Mr. Brosius will be efficient in preventing the sale and manufacture of adulterated foods and drugs by forbidding their shipment from one State to another State, or into any State or Territory from a foreign country, and thereby supplement existing State laws, it ought to receive the cordial support of all honest persons, especially of those whose knowledge of the extent to which such unholy traffic is carried on impels them to labor that the "crime which robs every home, threatens every life, places a stigma upon every business and compels honest men to stoop to defrauding their neighbors or quit business" shall be brought to an end.—(Bulletin of Pharmacy.)

WHAT ARE SPONGES?

Sponge is a term properly applied to the organisms which constitute the order Spongiata, and the sub-kingdom Metazoa, but properly applied to the dead skeleton only, which is sold under that name. Their true nature has long been a matter of doubt, but they are now regarded as animals, because they contain no cellulose and require organic food. They are compound bodies, and the sarcode, or living part of the sponge, appears to the naked eye as a soft, gelatinous substance, which, however, is seen by microscopic investigation to consist of an aggregation of simple animals, possessing an endoderm, ectoderm and mesodermic layer. This living portion is supported on a horny skeleton, which is composed of a substance called keratode, spongin, or keratin, and chemically allied to silk, from which it differs in being insoluble in an ammoniacal solution of copper sulphate. All sponges

except three or four genera belonging to Myxospongiæ possess some kind of skeletal structures. They may be either calcareous or silicious, or horny scleres, the latter usually having the form of fibers, which sometimes enclose silicious needles (spicules) or foreign bodies introduced from without. Foreign bodies also contribute to the formation of the skeleton of some silicious sponges, and occasionally form the entire skeleton, no other hard parts being present. The spicules of calcareous sponges consist of carbonate of lime, having the crystalline structure and other properties of calcite. Each spicule, as far as its mineral component is concerned, is a single crystal. On the other hand, its form and general structure are purely organic. Its surfaces are always curved, and usually it has the form of a cone or combination of cones, each of which consists of concentric layers of calcite surrounding an axial fiber of organic matter, probably of the same nature as spongiolin or spongin, the chief constituent of the fibres of horny sponges. A thin layer of organic matter, known as the spicule sheath, forms the outer covering of the spicule. Spicules may be obtained by cutting sponge into thin slices and soaking it in liquor potassæ, or any other substance that will dissolve the horny skeleton. The spicules of different sponges differ both in form and size. Roughly, there are two groups—minute or flesh spicules supporting single cells, and larger or skeletal spicules supporting a more or less consistent skeleton. Naturalists classify the sponges by the shape of the spicules.

The characteristics of the sponge are irregular shape and elevations, with crater-like openings—oscula. A constant current of water flows through the living sponge, being inhaled by the smaller pores and exhaled by the oscula.

The simplest sponge we know of consists of a flask-shaped body with a large cavity, having one oscule at the top. On dissecting it we find passages running through it,

all of which lead to the central cavity. Here and there in these passages we find dilations, each of which is lined with cells, having hairs pointing outward. These are for breathing purposes, by directing the water into currents. These currents also provide food for the sponge, in the form of particles of animal and vegetable matter. Fresh individual sponges are formed by a sexual gemmation, external and internal, by fission, and by true sexual reproduction from the union of ova and spermatozoa developed from wandering amoeboid cells in the mesoderm. The little gemmule thus formed is ejected from the oscule, and, floating away, attaches itself to a rock. Artificial propagation has been carried out with success by the Italian Government off the Dalmatian coast and also by the Americans in Florida.

When the sponge is brought up alive it is surrounded by an outer skin, a simple unorganized membrane, in which the pores appear or disappear at the animal's will. When cut open the sponge resembles raw beef intersected by canals and cavities, lined throughout by sarcode, a sticky glutinous substance of a grayish-brown color and of the consistency of treacle. This the fishermen call the "milk" of the sponge. The outer membrane is removed soon after the sponge is fished, to avoid fermentation. From being tough and elastic it becomes soft, with a most offensive odor. This, the living part of the sponge, is removed before the boats return to the shore, and the process being necessarily incomplete, further purification of the skeleton takes place in the merchants' hands. The unsightly ferruginous color which permeates nearly all kinds of sponge disappears in bleaching. The so-called "unbleached" sponges of commerce have really been bleached, but not to the extent of the commercial "bleached" sponges. The trade term for sponge which has not been treated chemically is "raw."

Sponges have served a wonderful part in the scheme of creation. By the decomposition of their protoplasm, or sarcode, chem-

ical changes have been naturally promoted which have had very important results. The silicates of soda held in solution by sea-water have been precipitated by such chemical action, and the result has been the formation of bands and nodules of flint, such as we may see intersecting and alternating in any old chalk quarry. The spongy origin of the greater part of such flints is now regarded as more or less settled.—Mrs. T. S. Wokes, before the Liverpool Pharmaceutical Students' Association. (Bulletin of Pharmacy.)

THE EXTRA-CORPUSCULAR LIFE OF THE MALARIAL PLASMODIUM.

While considerable variance of opinion will still continue to find expression in regard to the extra-corporeal life of the malarial parasite, the brilliant investigations of Surgeon-Major Ross of the Indian Medical Service have undoubtedly led to a climax being reached. The announcement that Ross had established an absolute proof of the infection of birds with the malarial parasite through the agency of mosquitoes has settled speculation regarding the role played by this insect in the dissemination of the disease. The notion that the mosquito plays an important part is an old one, and was indeed held by Laveran himself. It remained, however, for Ross to confirm this idea by a series of painstaking observations, which have seldom been equaled for brilliancy or effectiveness.

Dr. Patrick Manson, in a paper read before the Section of Tropical Diseases in the British Medical Association, has shown the various steps in the inquiry in which Ross has been engaged. He first of all found that the mosquito, in imbibing human blood, ingested the parasite. His investigations were directed to the flagellated body, which as an adjunct of the parasite has been a subject of endless debate. Ross observed the formation of the flagellum in the mosquito's body. A vast amount of controversy has taken place regarding this flagellum. Many distinguished bacteriologists have considered it a degenerative feature in the parasite's

life, a sure indication that it is about to die; but Manson and Ross have always maintained the reverse proposition that it was a sign of vitality, a token that the organism was about to assume a new phase of existence, and that the flagellum itself represented the reaction of the parasite to a medium of increasing viscosity. They had shown some time previously that if blood be collected under vaselin, the flagellated stage is not as a rule apparent. In the body of the mosquito Ross observed the flagella break away and assume separate existence, so he surmised that the parasite entered upon a new phase of life in the mosquito's stomach. The nature of the problem presented in these facts Ross decided to work out in birds.

Birds suffer from malaria, and two forms of the parasite are recognized in their blood, known as *Proteosoma* and *Halteridium*. Ross allowed mosquitoes to feed on birds afflicted with *proteosoma*, and found that the parasite entered the mosquito's stomach. An hour later, examining his mosquito, he found certain oval pigmented bodies in the muscular lining of the stomach, which he inferred were a developed stage of the *proteosoma*, for in hundreds of test experiments these pigmented bodies only occurred in mosquitoes fed on *proteosomatous* birds. That these bodies were evolutionary forms of *proteosoma* was almost confirmed by the previous example of *Halteridium*, the other malarial parasite of birds. In this organism, after the flagellum had broken away, it entered the pigmented halteridia, and these being transformed into traveling vermicules, possessed the power of entering the corpuscles. Ross inferred the same thing to occur in *proteosoma*, that the traveling vermicules entered the mosquito's stomach and there became the pigmented bodies. The further course of evolution of the *proteosoma* in the stomach is highly interesting. It grows in size and projects rounded bodies beyond the stomach walls. These Ross terms *Proteosoma coccidia*. These *coccidia*

undergo changes of appearance. Pigment comes and then disappears, but they finally burst and from them emerge germinal vermicules. These vermicules practically infested all the tissues of the mosquito, and what was highly important, these parasites were discovered in the venemo-salivary glands of the mosquito. The climax of these brilliant investigations was now within easy reach. Ross allowed mosquitoes to feed on birds afflicted with proteosoma, and after a few days he fed them on birds whose blood was void of parasitic infection. The blood of the latter in a few days was filled with proteosoma, thus inevitably establishing the fact that the mosquito acts as an extra-corporeal and intermediate host of the malarial parasite.

The fact that the mosquito begins and ends its life in water may furnish an explanation of the undoubted malarious nature of swamps. Direct mosquito infection is probably less common than indirect, but that this interesting animal acts as the extra-corporeal host of the parasite seems substantiated beyond all chance of contradiction.—(Med. Age.)

BEHRING'S AMERICAN PATENT ON ANTITOXIN.

The *Munich Medicinische Wochenschrift* of September 6, contains the following editorial: "Professor Behring, of Marburg, has at last, after a number of ineffectual attempts, succeeded in obtaining a patent in the United States for the production of diphtheria serum. The patenting of a scientific discovery by a physician contradicts to such an extent the cherished traditions of the medical profession that it is not surprising that Professor Behring has been assailed with violent criticism on account of this patent. He replies to these criticisms in the following explanatory letter which has appeared in a Marburg paper: 'It is true that a patent has been granted me in America for the production of diphtheria serum, and it is true that the American firms who have hitherto been commercially benefitting by the

production of diphtheria serum are angry about it. When the Americans interested express their anger in the American way, that is their own concern; but when in this case, entirely contrary to their usual custom, they declare that to take advantage of existing laws to exploit an important practical discovery, is immoral and scandalous, I can not accept their verdict seriously. For my part, I do not consider a legitimate means of making money dishonorable; I might even go so far as to say that I consider the renunciation of a considerable pecuniary profit, legitimately one's own, unpardonable folly. Time will show whether the American courts will be coerced by this newspaper clamor into interfering. If this, as I confidently anticipate, does not occur, then the American public will derive much benefit from the patent, as they will then secure the diphtheria serum better and cheaper. The denial of my right of invention and discovery is based on ignorance and injustice. Ask any one of the scientists whose names are mentioned as having co-operated with me in the discovery of diphtheria serum; not one of them will wish to contest the priority with me.' This explanation can only arouse the most painful sentiments in medical readers. The last statement is correct. To Behring alone belongs the honor of the glorious discovery of diphtheria serum. But the gratitude which the world, and especially the medical profession, owe him for this discovery should not induce us to accept in silence such principles as are enounced in the foregoing explanation. It is not true that every way of making money which does not conflict with the laws, is honorable for the physician. It would be the severest blow to the prestige of the medical profession if these principles, which sound like a sneer at the efforts of physicians to raise themselves above the level of the trades, should be accepted. As far as the patenting of a remedy is concerned, the German patent laws do not allow it; even the diphtheria serum is

not protected in Germany. This restriction does not seem to exist in America, although the Code of Medical Ethics, endorsed by the better American physicians, declares that it is derogatory to professional character to hold a patent for any surgical instrument or medicine . . . inconsistent with beneficence and professional liberality. The American, as well as the English professional press, regard Behring's application for a patent as a breach of the ethical foundations of the medical profession, and criticise it in the severest terms, which we must regret all the more as we can not consider them unjustified."

Behring disclaims that he is still a physician. In a letter to the *Deutsche Med. Woch.* of September 15 he remarks: "I gave up my professional practice when I entered upon my career as an experimenter and inventor, and I am compelled to seek means in a commercial way to carry on my experimental therapeutic work."—(Journal Amer. Med. Assoc.)

YELLOW JOURNALISM.

Many physicians of this country, says the *Archives of Pediatrics*, seem to be harassed by a consuming desire for what they denominate the "practical." To these men the "practical" article usually means one upon treatment or the management of disease. It is quite true that the ultimate aim of the medical man's effort is the cure of disease or the relief of suffering, but it is a very narrow view that regards only articles of the kind mentioned as practical. The doctor ought to be something more than a peripatetic disseminator of drugs and prescriptions. The article from the post-mortem room which renders diagnosis easier, and obscure conditions clearer, is as practical as an article on treatment. The report of the laboratory worker and physiological experimenter, which adds to our knowledge of the origin and cause of disease, is far more practical than a collection of prescriptions. While the treatment and management of

disease is the ultimate object of the physician, it is an axiom that treatment cannot be judiciously planned nor, except by chance, effective which is not based upon a correct diagnosis and a thorough knowledge of the condition to be treated.

We sometimes feel inclined to refer those doctors, so eager for the so-called practical, to certain daily newspapers of the yellow type. These journals contain each day a column devoted to medical subjects. Here one may find valuable hints for the cure of stomach-ache, the treatment of chicken-pox and many things enumerated as good for children teething. This is the kind of knowledge that these gentlemen need. They have a keen scent for prescriptions, and value an article in proportion to the number it contains. These they try one after another because they are labeled as "good" for some particular ailment. A large part of these prescriptions are old and have long been floating among medical journals and works on therapeutics. While a part of them may be relied upon to kill, with more or less precision, the infants upon whom they are tried, others are not harmful, and some are really good.

The man who settles down to the use of these ready-made prescriptions, however, or to the use of ready-made proprietary medicines, is soon as far beyond reformation as the habitual drunkard. He loses not only the power, but even the inclination to turn from the error of his ways and lead a better life. He is content with the crudest empiricism. The enterprising manufacturer concocts a new mixture and tells him it is "good" for some disease, and he forthwith uses it. He sometimes stops here, fortunately, but in too many cases, after administering it to two or three patients, he writes to the journals about it. The general practitioner, it is true, should be encouraged to write more than he does and to report his interesting cases more freely. But the crude observations of men who draw sweeping conclusions from a few

cases, or advocate treatment which has not received adequate trial, is to be condemned in the strongest possible manner. This is not "practical" medicine; it is yellow journalism in its worst form, and of all yellow journals, the yellow medical journal is the worst. Its sensationalism not only corrupts medical men, but endangers the safety of the community. It develops in its readers depraved tastes, and renders them incapable of enjoying the study of scientific medicine. It destroys the taste for better literature and renders it more difficult for reputable journals to live. Month after month these yellow journals contain no article that will live and be worthy of record, because they add nothing new to the stock of knowledge. Their articles are compiled or rehashed from the works of other men, or worse than that, contain things that are untrue and are not based upon experience.—(Maryland Med. Journal.)

CAPTAIN CLARK AND THE OREGON.

Captain Clark, who sailed the Oregon from San Francisco to Key West, 14,000 miles, in order to strengthen the North Atlantic squadron and impart confidence at home, gave an interview to the *Chicago Tribune*, August 29th. He said of Cervera's attempt to escape, the battle that followed, and the naval lessons of the fight:

"The Spaniard should have stayed in Santiago harbor forever rather than come out the way he did. The fleet was a fortress. With its guns he could have driven the United States army away from shore until such time as it could have mounted ten-inch guns to sink his ships. He was master of the situation, and should have 'hung on' until every last member of his ships' crews had died of absolute starvation! Then would he have been a real hero—an eternal figure in history!

"Think of the chances in his favor! Yellow fever might have come and decimated the American ranks. A gale might have broken loose on the Caribbean seas that

would have scattered our ships to the four winds of heaven, after which Cervera could have sailed away without opposition and returned to his native land undefeated.

"But the attempt at escape furnished a sublime spectacle. Out came the Spanish ships, with their great ensigns flying to the breeze that their own momentum created. The sea was like a pond; hardly a ripple appeared in any direction. Those great ships looked handsome and—defiant. And I want to say, in all candor, that it looked for a time as if some of them would get away—I mean through our lines. We didn't know how badly we were punishing them. The Indiana, Iowa, Oregon, Texas and Brooklyn were all hammering them at the same time.

"The Spaniards always shot too high. I believe they set their range for 5,000 yards and never lowered it for any of their guns. A steady stream of projectiles was going over our heads all the time. They fired shot and shell enough to have done us the greatest kind of harm, but we weren't hurt to any extent. The Spaniards were utterly demoralized at the way we went at them. It certainly was a revelation to most of us. The scores the Spaniards made were stray shots. Hardly any roll was on the sea that morning—it was like a pond. I never saw the ocean smoother.

"Until then we never realized the value of smokeless powder. The rapid-fire guns were impeded by the great volume of smoke, and the big guns suffered just as much from the smoke as the smaller weapons. As to the lessons of the fight, I would say they are: First, smokeless powder; second, no woodwork on warships. The Spaniards were burned up."—(Indiana Medical Journal.)

MEANS OF EMPTYING THE BLADDER.

The bladder, when partially paralyzed from parturition or any other cause, can always be made to empty itself perfectly by throwing a large amount of very warm water into the bowel, thereby doing away with the necessity of using a catheter, the bowel and the bladder emptying themselves at the same time.—Anderson (Louisville Med. Monthly, June, '98). (Cyc. of Prac. Med.)

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Original Articles.

SOME PROBLEMS IN EVERY DAY SANITATION WITH SUGGES- TIONS FOR SOLVING THEM.*

BY CHARLES MCINTIRE, A.M., M.D., OF EASTON,
Lecturer on Sanitary Science, Lafayette College.

Large quantities of vague conjecture are constantly put on the market as honest, Simon-pure sanitary science. This statement, while deliberately written, is not intended to be a cynic's snarl at the opinion of others, nor an assumption of superior knowledge. Indeed, I candidly confess that in my own limited experience, I have attempted to circulate much of this pinch-beck as pure gold. It is apart from my purpose to demonstrate that this must needs be so, because it would occupy time we can

spend to better advantage in other discussion. I ask you to accept the statement as an hypothesis, if you cannot receive it as the statement of a fact; because it is my only reason for presenting some everyday problems in sanitation for your consideration to-day. Were all that is attempted to be taught regarding them scientifically accurate, their presentation would be devoid of interest or of profit. If the initial statement of this paper is true, it becomes of vital interest to us all to apply the tests and discover the truth.

And first some of the problems of communicable diseases: I use the word communicable rather than contagious or infectious because of the confusion in the meaning of the terms as used in different stages of the history of medicine, as the various theories of disease-dissemination have controlled medical thought. With our present ideas we can call them all infectious diseases. Sternberg defines them as:

*Read by invitation before the Bradford County Medical Society, July 12, 1898.

"Those diseases which result from the introduction into the body of some disease producing agent. And I think we are justified in saying that an essential condition of infection is that the disease producing agent shall be capable of reproduction in the body of the infected individual—in other words, that it is a living organism. It matters not whether this living organism is large or small: whether it belongs to the animal or vegetable kingdom: whether it is located in the skin, as in scabies: in the muscles, as in trichinosis: in the lymphatics, as in erysipelas: in the solid viscera, as in amebic abscess of the liver: in the intestines, as in relapsing fever: the introduction and multiplication of the living infectious agent constitutes infection."

The first problem may be thus stated. *Given a case of communicable disease, how may I be able to prevent its spread?*

The question asked by the physician might be, how can I cure my patient; but that element does not enter into our discussion as sanitarians.

To solve this problem we must have an accurate knowledge of the nature and life history of the infecting organism: you would not follow the same procedure in a case of trichinosis, for example, as you would in a case of smallpox. Unfortunately we are not yet possessed of this information in every kind of communicable disease. The nature of the infection of, e. g., smallpox and scarlet fever, is at present only a generalization upon what may eventually be shown to be very narrow observation. Consequently some of our effort must be devoid of scientific accuracy, and, as long as it is so, we must feel our way and use many procedures which additional knowledge will show to be useless as precautions. Thus, until cholera was demonstrated to be a water-borne disease, what a useless expenditure of energy was displayed in fighting what the disease was imagined to be!

Two propositions grow out of this statement: the first, it should be our constant aim to obtain precise knowledge of the nature of the infecting organism and its life history, in order that our efforts to prevent its spread may be directed to the essentials, and thus unburden our patients of all restraints that, however they may partake of the glitter of the circus parade, and may cause the unlearned to look with awe upon our efforts, afford no more protection than would the paste-board and tinsel armor of the aforesaid parade.

Let me illustrate this by a disease already mentioned—trichinosis—it is not a common disease, nor is it usually called a communicable disease, but it answers my purpose because the life history of the parasite is so well known. You would not isolate a case of trichinosis, nor disinfect his bed or body linen before giving it to the washerwoman, yet you would be derelict if you did not require an examination to be made of all the pork, not only of the supply in the house of the patient but in the market whence that supply came. And you would also, doubtless, urge upon the people to thoroughly cook their pork for fear it might contain trichinæ.

The second proposition is: that in default of specific knowledge we must fall back upon generalization and adopt such precautions as seem to meet the majority of cases. Thus Dr. Baker, the secretary of the State Board of Health of Michigan, has demonstrated from tabulating a large number of cases extending over a number of years, that isolation and disinfection does diminish the number of cases and the ratio of deaths in cases of communicable diseases, notably in diphtheria and scarlet fever.

The discussion thus far has not yielded a very definite answer, but one can say with positiveness, that we can prevent the spread of any communicable disease if we kill every microbe associated with the initial case. This is practically begging the question, but for a moment I wish to leave it at that.

¹ Wesley Carpenter, Lecturer—*Jour. Am. Med. Sci.*, December, 1896—page 649.

The second problem may be formulated—*Given a case of communicable disease, how can I prevent a person free from the disease contracting it?*

This at the first glance appears to be so similar to the first problem that I hope you will patiently bear with me in its discussion. The second proposition permits the escape of the infecting material and opens at once the inquiry, are all persons equally susceptible in the presence of pathogenic bacteria? and we are at once forced to answer the question in the negative. Naturally we ask in the next place, why are they not? In a large number of cases it appears that a previous attack of the disease exempts the individual from a second attack. It was the study of this second problem along this line that secured vaccination against variola, and the immunization obtained by the injection of antitoxins. But there is another large class not yet rendered immune by a previous attack or by the physician's art, that escape when exposed to the infection of a communicable disease. It is the two women grinding at a mill of the Scriptures, one is taken and the other left. If the bacillus tuberculosis drifts so abundantly upon every balmy breeze, as some would have us believe, the world would have long ago become tenantless if every one afforded an equal lodgment for its growth. We must, and do recognize, an, as yet, undefinable something which resists successfully the growth of the germs and the production of their toxins. As the bacteria belong to the vegetable kingdom, for want of a more accurate term, the effective resisting power is called the soil-factor in the communication of disease.

The study of the soil-factor is much more difficult than the study of the microbes. The experiments must be more complex, because the living bodies to be experimented upon belong to a higher and more specialized form of life. It is a study I can commend to the general practitioner, for it is only by generalizing from a vast number

of carefully recorded observations that the truth can be formulated. Do not form any theory, but note carefully in every case certain phenomena and put them down. Here is a case of scarlet fever in a family, let us say, of five children, clearly imported by the child from a visit to another neighborhood, two of the children contract the disease, two escape—why? Make a careful study of the physical condition of all: enter into a study of the blood, if you can; of everything indeed and note it down. Let each of you do the same in all your cases. By and by when a hundred or a thousand cases have been observed, possibly some one will have an intimation of light. Another thousand cases may make the first suspicion more intense or disprove it altogether. It is only by some such extended study as this, that the true nature of the soil-factor can be discovered. But the determination of what it is will lead to our being able to put our patients in a condition to resist the onslaught of infection, and a greater boon be given to humanity than the discovery of a universal bactericide.

To answer our second question in the oracular manner applied to the first, we can say that we can prevent any one contracting a communicable disease by placing his system in such a condition that the germs will not grow.

I have presented these two propositions to you in this elementary manner for a purpose. Questions are continually arising as to the actual communicating power of a disease that can readily be rationally answered if we are careful to apply the truth underlying these two propositions, since in actual practice the solution of the problem does not lie solely along either proposition, but in the combination of the two. But while our actions are apt to be determined by the combination, our formulated opinion is apt to be expressed in the terms of one only. It follows as our knowledge both of the life history of the bacilli and of the nature of the soil-factor becomes more accurate, the more

rational our methods for sanitary treatment of the disease become.

While the rough draft of this paper was copying, I came across the following editorial statement in the *American Medico-Surgical Bulletin* for May 25, 1898.—Dr. Horatio C. Wood, Editor:

"We are fast learning that microbes are never the sole cause of any disease, and that the so-called diseases have themselves no objective existence other than as related groups of symptoms of bodily derangements due in all instances to several causes. Diseases *per se* do not exist. We have given names to certain deviations from the normal equilibrium of forces that constitute health, and then exalted these names in our minds to real things. Every one of the causes that conspire to any given form of deviation from health may by other relations cause wholly different deviations, and therefore wholly different diseases. On the other hand, any given deviation from health may at different times be due to wholly different causes."

Let us re-state the two propositions uniting them in one and formulate it: what precautions should I take in any case of communicable disease? Our aim should be to restrict every outbreak of communicable disease to the initial case. This was done in the last cholera outbreak in New York City, to the credit of their Board of Health, be it said, and we should all emulate that record. And first we want to prevent the escape of a single germ beyond our control. How admirably the surgeons have done this and how their technique has advanced! No one, now, would think of using Lister's spray for fear of the monsters for evil crowded in the air.

Dr. Kotz, the pathologist of St. Luke's Hospital, South Bethlehem, exposed some culture plates to the action of the air of the operating amphitheatre of that institution. This room, as many of you know, is not constructed after the modern plans for an aseptic operating room, and it has been in

use for a number of years. There were so few colonies of microbes developed on his culture plates as to demonstrate there was no danger of wound infection from that source.

Would that sanitarians would work along as rational lines as the surgeons! It is true that our problem is a more complex one, and the demonstration of benefit more difficult, but that should only give additional incentive for more pains-taking work. How will we be able to secure as strict antiseptis in the management of a case of communicable disease as in an operation and at the same time not cause our patients to be annoyed with useless and annoying restrictions? While there are many points in common in the methods employed, to properly answer the question necessitates the study of the individual diseases. Time will not permit an exhaustive examination and I have selected two, typhoid fever and diphtheria, largely because of their frequency, in rural communities as well as in cities.

The bacillus of typhoid fever invades the small intestine, and it is not thrown off except through the alvine and bladder discharges. I know certain careful writers are apt to speak guardedly of the occasional transmission of typhoid fever by direct contact or by the air. I think the more careful the writer, the greater the hesitation in suggesting the possibility of this method of communication. I am inclined to believe that every asserted case of communication of typhoid fever by aerial transmission or by personal contact is so pronounced by exclusion: there seems to be no other way to explain the attack. I further believe in every such case the actual cause has been so subtle as to have escaped observation. If then the contagion of typhoid fever escapes only from the bowels and the bladder, the proper and thorough sterilization of the stools and the urine will prevent any one case communicating itself to another. This only expresses a part of the problem and that, too, the easiest part. Any one of you can doubt-

less detail case after case of typhoid fever originating apparently, *de novo*. We may prevent any one case being a center of infection, but if we do not get rid of the source of infection, we may have other cases with a possible result of doubt as to the efficacy of disinfection. And herein lies one of the great obstacles to our scientific treatment of the disease. Our knowledge of the bacilli is still too limited for generalization. While some writers restrict the bacillus of typhoid to that species known as the bacillus typhosus, other observers believe it to be possible for several species of bacteria to produce the infection of typhoid, and that even the bacillus coli communis, may, under certain conditions, produce a disease that cannot be distinguished from typhoid fever. If these observers are at all reliable, we must give heed to their opinion until the contrary is proved. These observers include such observers as Prof. Gaffky and our own Vaughan. Consequently, there is danger of contracting typhoid fever without the pre-existing case: but how? always through the food supply, including water among the foods. And most usually it is the water supply. In addition to the sterilization of the discharges of a patient suffering from typhoid fever, it is necessary to see that the food supply of the community is free from pathogenic germs producing typhoid. In practice this reduces itself to the care of the water supply, because the spread of the disease by milk and other foods is because of their contact with contaminated water. Every case of typhoid fever involves a careful investigation of the water supply, and if there are any chances for organic contamination, the removal of this danger. For who knows when a colon bacillus may not take on a virulent form? The removal of the cause involves the proper disposal of the sewage and garbage from dwelling houses. This subject is so hackneyed that I will not occupy your time in its discussion except to suggest the highest form of a plant for a farm house is a small

irrigation station and the water carriage of the sewage to it.

In addition to our attention to this detail until we know more of the soil-factor, attention should be to the general condition of those exposed to the disease, especially to the possibility of intestinal dyspepsia and the contamination of the system with imperfectly formed products of digestion.

Turning now to the other disease to be used in illustration—Diphtheria. We find in this a more difficult task, because, apparently at least, diphtheria is on the increase, while the ravages of typhoid have been greatly diminished in the past few years. This statement is especially true of a number of European cities where a pure water supply and a rational system of sewage have been installed. Researches of the biologist have added much to our knowledge, but, to use a base-ball phrase, they have not bunched their hits. Here is a valuable item of information and then a vast space of which we know nothing and a little explored territory followed by a wilderness waste. It is much more difficult to build upon a few piles than upon a rock foundation, at the same time, if our piling is driven down into the hard gravel, let us make use of it for all it is worth.

What do we think we know of diphtheria? First, as to its local manifestations—and for convenience, I will confine myself to its manifestation in the pharynx. We know that there are several inflammatory conditions of the pharynx. Among these are (1) a pseudo-membranous inflammation in which the Klebs-Löffler bacillus is present, (2) a pseudo-membranous inflammation in which the Klebs-Löffler bacillus is not present, and (3) a condition where the bacillus is present and no pseudo-membrane, and our clinical picture of the disease may be either one of these conditions or a combination of the three. It is usually true that the severity of the disease (not of the local symptoms only) is in direct ratio to the presence and virulence of the bacillus.

It is wise then to know if the bacillus is present in any case, and what to do to prevent its spread. The first fact can be ascertained by a culture test, and as the tubes can be sent by mail, should be made in every case of suspected diphtheria. The second statement requires additional study. The bacillus of diphtheria is entangled in the pseudo-membrane, or the tissues at its base. From its position it is kept somewhat moist, at least it does not become powdered and it does not seem probable that any of the microbes are sent into the air in process of respiration. The escape of the bacilli is through the pieces of false membrane coughed out or expectorated. I lay so much stress upon this that I will risk wearying you by a little more careful examination. If the Klebs-Löffler bacillus is forced out into the air by breathing it ought to be easily found by the proper tests floating in the air or lodged upon articles of furniture in the room.

I have been searching for proof for this for several years. And while I do not claim my search to be exhaustive, it has been reasonably extensive and it is surprising to see the almost unanimity in the opinions expressed whether by clinicians or laboratory investigators. Thus Osler, "The poison is given off in the pharyngeal secretion, but not in the breath. . . . The contagion does not seem to be widely diffused in the neighborhood of the patient." And Dr. Francis H. Williams, *Boston Medical and Surgical Journal*, November 29, 1894, page 546. "The diphtheria bacillus flourishes chiefly in the throat and is not a motile bacillus, but must be carried to the healthy individual. This is done principally by direct transferring from mouth to mouth, or from hand to mouth or nose." Indeed about the only evidence I possess of a possible aerial transmission of the diphtheria bacillus is a statement by Fischer in the *Medical Record* of January 28, 1893, that he secured some cultures of the Klebs-Löffler bacillus by exposing plates to the openings of drains

connected with sewers. I have not been able to find another observer confirming these results and the researches in the diphtheria wards of a large hospital show how rarely this distribution happens. I have mislaid these notes and quote from memory. A number of culture tests were made of the sweepings of the floor, scrapings from the soles of the nurses' shoes, the dust from the clothing, etc., and most of them resulted negatively, but there were a few tubes in which the diphtheria bacillus was developed, showing that sometimes the microbe becomes distributed but not usually.

If these observations are accurate, are we not forced to decide that much of our sanitary treatment of an outbreak of diphtheria is as obsolete and as useless as the carbolic spray of the original Lister technique in a surgical operation? Isolation of the patient is necessary because of the possibility of personal contact; but why quarantine the entire house and household? Then in the matter of funerals—there are no emanations from the body, no host of deadly microbes filling the air of the house. Under proper precautions, which include a proper disinfection during the course of the disease, and of the attendants before the time of the funeral, and a closed coffin to prevent the possibility of personal contact, a public funeral of a diphtheria patient ought to be as safe as were the cause of death, typhoid fever. While asserting this, I am free to confess that I would not permit a public funeral of such a case under my care unless I could have a culture made of the throat secretions of every one attending the funeral, because should a case of diphtheria afterwards develop in any person present at the funeral it would be difficult to overcome the present day sentiment.

It might be profitable to pursue this line of reasoning to the other more frequently occurring diseases, but I fear it would prove wearisome to you all. He is a sorry artist who must label the product of his pencil to enable the by-stander to know what is

meant. I make the tacit confession of this lack of skill rather than you miss the underlying thought of this lengthened discussion. Sanitary science should be the most exact as it is the most exacting branch of medicine. It is that department of medical science which comes in rational contact with the laity either as individuals or in organized bodies. It is the branch of medicine by which the mental processes of the physician will be judged, for arguments and reasons are given to men of affairs to cause them to modify their business procedures for sanitary reasons. These men are men of common-sense-reason, not creatures of sentiment or dreamers of theories. Hence I have at this length tried to show how we should reason and act upon the courage of our convictions. When we do this more perfectly, we will have the more cordial support of the people, and if this discussion will help to bring this about it will have served a good purpose.

Let me ask your attention to the consideration of another problem much neglected in Pennsylvania but of the greatest importance nevertheless—the collection of vital statistics. The ardent wish of each one of us is to effect a cure of each patient placed under our care: this creates the still higher desire to prevent disease in those individuals who look to us as their medical advisers. The further development of this idea changes our position, we are no longer practitioners of medicine merely, but sanitarians whose desires are to diminish the death rate: to exterminate disease, or, at least those forms of disease known as preventable; and to promote the health and bodily vigor of the nation. Just as the temperature chart furnishes definite information of a progress of a fever case, so do properly collected vital statistics give the sanitarian the knowledge he so much needs of the condition of health of a community. The absolute necessity of such statistics for the proper sanitary oversight of the State cannot be exaggerated and yet, this great commonwealth of ours

year after year, legislature after legislature refuses to put into operation machinery already provided in the act creating the State Board of Health. I sometimes think the physicians of the State have been careless in this matter, that they have not informed themselves of the importance of gathering and tabulating such facts, and consequently our legislators have been led to think the question as one of but little importance and as being but an effort to give several positions to hungry place hunters. Or, it may be, that constitutional inertia, which makes so many of us conservative because it takes less exertion so to be, has seized the profession and one and another oppose the idea to prevent the additional labor required to make the returns. Whatever may be the cause, I am sure if the physicians of the State were enthusiastically desirous of the appropriation, it would be made. I also feel certain if our medical people fully understood the importance of the information to the sanitarian, they would be enthusiastic. It may seem dry and grewsome, to record the death of our patients giving certain statements as to age, sex, marital relations, cause of death, etc. But are the number of deaths, e. g., from typhoid fever on the increase or decrease in Pennsylvania: do the majority of deaths occur in cities or in rural communities: what period of the year has the greatest number of deaths from this cause? Not one of these questions can be satisfactorily answered by us. What practical use would it be to answer them? We are more apt to guard against a known danger. Your thermometer shows an increase of temperature and you are on the alert to find the cause: the temperature is reduced and now is normal and you feel easier and more hopeful.

The vital statistician finds an increase in deaths from typhoid fever and he seeks at once to learn the cause and to remove it. Last spring there was a sudden increase in deaths from typhoid fever in one of the wards in Philadelphia caused by the over-

flowing of a connecting sewer and the contamination of the water supply. Suppose the water supply had been contaminated by an unknown leak in that sewer: the increase in the death rate would have been the first indication and the search would have been instituted because of the death returns. On the contrary, when certain sanitary reforms have been instituted, and the death rate correspondingly decreased the vital statistics are able to demonstrate this accurately and to prove the advantage occurring to the community for its expenditure of money. Thus, in the city of Munich, in 1857, there was an annual mortality from typhoid fever of about 291 per 100,000 which remained constant until 1865 when the new water supply was installed. The vital statistics showed an improved condition of public health by an annual death rate of about 150 per 100,000. Shortly after this the beginnings of an improved sewage system were begun and continued from year to year, the death rate meantime diminishing, so that in 1887 it was but 10 to the 100,000.

But to receive the greatest benefit from vital statistics, cases of illness as well as of deaths should be reported, at least of the more serious and fatal diseases, certainly all of the communicable diseases. As already intimated this adds an additional burden to the busy doctor, but a burden he ought to be willing to assume voluntarily for the benefit the proper and prompt tabulation of the figures will be to him. At the same time I am of the opinion that a small fee should be paid the physician for each blank filled out in compliance with the requirements of any law relating to vital statistics.

My object in presenting this problem to you at the present time is to urge upon you to look at the question in its proper light and, realizing its importance, to properly inform the members of the Legislature upon the subject.

There is one other problem that I will

venture to bring to your attention, and that is the purity of our water supply. That it is a problem affecting rural communities as well as the cities may be seen from the following circular issued only last month.

"Recent reports to the State Board of Health show that at least two cases of typhoid fever have been caused by drinking the water in or from the Kalamazoo river. In no case should water be used for drinking or culinary purposes from a river or stream into which sewage is emptied or privies are liable to drain, and as most of the rivers and streams of this State have towns situated upon or near their banks, from which sewage is received, and privies are liable to drain, therefore it is very dangerous to use the water from any of the rivers or streams for any culinary purpose whatever, except the water be first boiled, and it should not, in any case whatever, be drunk unless previously boiled.

"Cases have been reported where typhoid fever has been contracted by bathing in streams. Probably this will be most likely to occur through accidentally or carelessly taking the infected water into the mouth.

"Especially should no person bathe in any ordinary streams just below any city, village, or other source of sewage or privy drainage.

"Office of the Secretary of the State Board of Health.

"Lansing, Michigan, June, 1898."

Now while some of the suggestions of the excellent secretary of the Michigan Board of Health incline to the alarmist type so prevalent among sanitarians and are open to criticism, we cannot but accept his statement of facts as evidence of a real danger. The man who would throw arsenious acid in your well would properly spend some time for reflection in seclusion, if, indeed, he was not fitted with a hempen collar. But a man or a community can contaminate with typhoid fever germs, the stream from which you secure your drinking water and ask you: "What are you going to do about it?"

The highest type of a citizen is not one who only does what the law compels him to do, but who of his own will strives for the common weal. While, therefore, there is no law compelling the preservation of the purity of our sources of water supply, much can be done by the use of personal influence and the creation of public opinion. Let us try to create a sentiment that no self-respecting citizen will permit the direct discharge of fecal matter into any running stream. Those of us who live in cities having a sewage system with an unpurified effluent must bear the shame we are powerless to remove, but let us urge the sentiment nevertheless. Let us also seek to put the ban of public opinion upon the contamination of any running stream by anything whatsoever, be it liquor from the tan vats, saw dust from a sawmill, culm from a coal jig, or even the acid water from the coal mine. The man who either for his profit, or his convenience works discomfort upon his neighbor should be made to bear the weight of public condemnation.

I will barely allude to the trite subject of the possible pollution of wells by improperly placed cess-pools. The subject is too trite to more than mention it.

If the streams are not to receive sewage matter what is to be done with it?

When this problem is stated in connection with the public sewage of a community, a special study must be made before giving a reply. If it concerns a simple house or a group of two or three houses, a plan for irrigating a small patch of land can easily be devised that will purify the sewage permitting a sanitary clean water to be discharged that can safely enter into any stream.

I have thus led you afar over the field of sanitary science and discussed some of the pressing questions of the hour. My purpose has not been an attempt to convey information, for I have spoken only of very homely questions: but rather to present a plea for progress, for efficiency, for mutual

helpfulness. I thank you for your courtesy and will in no wise feel hurt if you deem my paper worthy of discussion should you differ with me and pick my conclusions to pieces.

TYPHOID FEVER.

BY W. R. HOCKENBERRY, M.D., OF SLIPPERY ROCK.

[Read before the Butler County Medical Society, May 17, 1898.]

The more one sees of typhoid fever, with its various phenomena accompanying the period of incubation and prodromal stage, and in fact until convalescence is well established, the more thoroughly is he convinced of the greatness and the uncertainty of the task with which he has to grapple.

Some practitioners are imbued with the idea that the time has arrived when the physician need no longer dread an epidemic of typhoid fever, and that death is wholly an unnecessary consequence.

The bacteriology of typhoid fever shows it to be a disease greatly to be feared, on account of the irritating and toxic properties of its causative agent: the bacillus of Eberth. These bacilli, whether sporogenic, non-sporogenic or ciliated, are certainly capable of great resistance, and also capable of successfully combating with the leucocytes and proliferating at the same time, forming a chemical substance, typho-toxin, in the tissues of the body.

Pathology, microscopy, bacteriology and the various aids and tests in making an early diagnosis, such as the diazo and sero-Widal tests, and the other advancements in medical science, have taken from typhoid fever none of its terrors. To understand the phenomena and cause more fully, is to know that typhoid fever is a disease that demands the untiring energy, skill and patience of the attending physician. It is still the same treacherous disease that has afflicted all peoples and climes, and whose origin traces beyond all tradition.

Being a young practitioner, I have had

time for reflection on some cases of typhoid fever, which I have been fortunate enough to have had under my care—six in all. And while studying the history and watching the symptoms in the different cases, I have been led to ask of myself the question: What is typhoid fever? Is it the acute infectious disease described by the text-books and having the phenomena of fever, great prostration, enlargement of spleen, mesenteric glands, liver and lesions at the point of inoculation—the lymph follicles of the bowels, also pathological changes in other organs of the body? Or is it an infectious constitutional disease, being more subacute or chronic in its onset and course, and having the above-named phenomena?

The cases which I studied showed that from six to eighteen months before the real onset of the disease, there was something about each patient, that is, his physical condition, feelings and sensibilities, which pointed to the ingestion of some toxic substance, and that it was gradually being increased in amount. Each one would invariably say he knew there was a something causing a flagging of his energies, but was not able to say what this condition might be; that he seemed to be enshrined by something which was dragging him down, and of which he could not rid himself. There was a gradual increase of restlessness. He seemed worried, had insomnia, dreams, twitching of the muscles, headache, and dull, heavy pains in bones of limbs and joints, flushes of heat at times, peculiar careworn, sallow appearance of the face, with halo beneath the eye, and a hazy appearance of the eye itself; also a clogging of the various glands of the body. These symptoms were not constant during this period; at times the dense gloom would seem to arise from off him, and he would be at ease for a time, but it was not long until the dismal condition would settle down upon him with increasing severity. One patient in particular, a school teacher, had a premonition of danger for several months

before taking to his bed; thought he was going to become insane; had insomnia; was irritable and morose, while his appetite and digestion were fairly good. Two of the others had acne and pemphigus, and one had "crops" of furuncles. In each of the six cases there was pure, unadulterated typhoid fever. And in each case above described the various phenomena preceded any apparent lesion of the bowels, such as tympanites, diarrhoea or tenderness over bowels.

It has, I believe, been generally accepted that a depletion of the system was necessary in order that the disease might gain an entrance to the system, but from my observations, I have been thoroughly convinced that no depletion or debilitated condition of the system is necessary in order that the bacilli of Eberth may gain an entrance and proliferate; for it is well known that the disease attacks the robust and healthy more than the weak, and a disease which has such a virulent causative agent needs no vanguard to lead its onset. The bacilli are capable of successfully combatting with the leucocytes and proliferating at the same time; this proliferation going on until the system is rendered immune to any further advance. This condition of immunity being brought about by the typho-toxin of the bacilli themselves, and that it is a self-limited disease, was the teaching of such authors as Flint, and such reasoning has never been proven to be false.

On the other hand, if a debilitated condition of the system is necessary for the bacilli to gain an entrance, what etiological factor can it be that causes a flagging of the vital forces and depletes the system for months, and is finally succeeded by typhoid fever?

I do not wish to force my convictions upon any one, but I am almost persuaded to believe that alongside of such constitutional diseases, as syphilis and tuberculosis, homage ought to be paid to typhoid fever. I cannot believe it an acute disease, running its course in from twenty-one to forty-two

days, but that it is more of a subacute or chronic disease, and that the acute period or exacerbation is the acme of the disease, when the great battle is fought, and for days and weeks is undecisive, when it finally terminates in death or a slow convalescence.

The disease is just as infectious as the above named diseases; periods of incubation similar; lesion at point of infection, affects the whole system—mesenteric glands, spleen, liver, kidneys, muscles, bones and serous membranes. The mucous membranes of the body are affected in a similar manner, e. g., the ulcerated stomatitis, laryngitis, and pharyngitis. There are also the roseola and alopecia. While the above-named symptoms are not all found in any one case of typhoid fever, as a general rule, they hold good, and are characteristic of the disease. These facts and many others which I have observed, but not named, lead me to believe that typhoid fever is a constitutional disease, and that a predisposition to an attack of typhoid fever may be inherited. It is a well known fact that a predisposition does exist in some families to typhoid fever, that is, some are more susceptible to it than others, while others seem to be naturally immune to the disease. No less an authority than Dr. William Pepper has pointed out this susceptibility as existing in some families.

How the human organism of anyone can withstand an attack of such an overwhelming disease as is typhoid fever, where there is so much katabolism in the various organs of the body, and that body not hand down to future progeny a typhoid diathesis, I am not able to discern.

As for treatment, I have none. I think the best treatment is that which will help tide the greatest number over an attack, and that, I verily believe, is a good nurse. I have been using intestinal antiseptics for the purpose of rendering the bowel aseptic, but do not think their chief value lies altogether in that direction, but that they stimulate the excretory function of the glands,

thereby causing an outpouring of the secretions, so that the bowel and other excretory organs are rid of the infection and toxic products. This increased glandular function causes an increase in heat dissipation, causing a lowering of temperature. I cannot believe that the intestinal antiseptics sweep along the bowel, but like our old traditional friend, calomel, are taken up by the blood, and form certain chemical compounds in the blood, and bring about this condition of glandular activity.

Aborting an attack I consider impossible, just as much so as it is to abort an attack of syphilis by cauterizing a Hunterian chancre, or a severe attack of puerperal sepsis, by washing out the vagina and uterine cavity with a solution of bichloride of mercury. At such a time the trouble is beyond any local treatment, otherwise than keeping the point of infection aseptic.

I stated above that I did not wish to force my convictions upon any one, but I must say that I believe that when typhoid fever is described as being an acute disease, that the half has not been told; that its course extends over a longer period of time than is generally supposed; that it affects the whole system; that a severe attack of it is almost mortification.

FERMENTATION.

BY C. W. COULTER, M.D., OF OIL CITY.

[Read before the Venango County Medical Society, May 17, 1898.]

At the last meeting of this honorable body, I was indiscreet enough to make the remark that a paper on fermentation should precede the one then about to be read by my friend, Dr. J. A. Ritchey, on "Intestinal Antisepsis." Our worthy president pro tem., informed me at the close of the session that he would appoint me to read the next paper, and gave me as my subject, Fermentation. I regret that I am compelled to write on a subject of such vast importance, in view of the limited time given me today for its con-

sideration; again I regret it because I think, considering the previous paper, that it is putting the cart before the horse; nevertheless, strange things will and do happen, and I suppose as well in the world of higher organized life as in the world of bacteria, which produce fermentation.

We shall consider fermentation today from the standpoint of the physiological chemist, which is the broadest interpretation placed upon the term, by recent lexicographers, i. e., the transformation of an organic substance into new compounds by the action of a ferment, either formed or unorganized, the former being vegetable micro-organisms, the latter soluble or chemical ferments and enzymes. The action of either, however, is to change the state, in a chemical sense, to decompose for the purpose of recombination into a new and definite chemical compound.

Our little friends, the saprophytes, the formed ferments, who, at times, are also our enemies, depend entirely upon organized bodies for their nutritive material; through their presence the higher organized matter of dead bodies, embracing both animal and vegetable, are resolved into the simpler compounds as carbonic acid, ammonia and water as final products in the process of fermentation. Herein they become our friends, for in the elaboration of these final products they aid in the nourishment of the higher forms of vegetable life, which go far toward nourishing the human body. When, however, they attack a blood clot, or perhaps a portion of the food remaining undigested in the alimentary canal, they become an enemy, producing an intoxication which in its severity is in proportion to the toxicity and amount of toxin or ptomaine elaborated and the susceptibility of the host; thus it will be seen in the absence of dead tissue the fermentative or putrefactive action of this class of micro-organisms is practically harmless. Indeed Senn makes it so strong as to remark that "if dead tissue be protected against the invasion of saprophytes, the

dead tissue may be completely removed by absorption." In the paper on "Intestinal Antisepsis," read before this body at the last meeting, the author spoke of the bismuth test, as used by Bouchard. By this test it is proposed to show the presence or absence of sulphuretted hydrogen in the alimentary canal. This compound of sulphur and hydrogen is produced by the fermentative or putrefactive action of these same saprophytes acting upon dead organic matter. I would not, however, consider this as a strictly reliable test, as the bismuth salt is blackened in its passage through the alimentary canal from other causes than this. Here the sulphur radical changes its base, and forms with the bismuth a new chemical compound, called bismuth sulphide, while on the other hand, we have the bismuth salt, giving up the nitrate or carbonate radical, or the nitrogen or carbon of its nitrate or carbonate radical, and emerging as the oxide of bismuth, which is also black in appearance, hence I cannot understand, without further description or analytical test, that this test would be a satisfactory one. Hydrogen sulphide is only one of the many gases or chemical compounds formed by the action of the saprophytic bacteria; in moist gangrene we have a full demonstration of the evolution of this gas, so much so, in fact, that adjacent tissues become quite emphysematous from it. In dry gangrene we do not have these fermentative or putrefactive changes, hence the difference in the disease. In the moist form, danger from sepsis is great, on account of the ptomaines formed by the fermentative action of these formed ferments on the dead tissues. They are mostly gasogenic in character, which fact makes it apparent that the evolution of gaseous matter from dead organic matter is always evidence of the active presence of formed ferments or the micro-organisms of putrefaction, fermentation, or decomposition.

A number of these ferments acting on dead organic matter have an acid reaction,

and are liable to impart or create an acid in the circle of their environment. They are capable of producing the following acids: Butyric, lactic, acetic, succinic, etc., acting upon the ingesta in the alimentary canal, their function is not disturbed, and as a consequence we have the above-named acids generated in the chemical laboratory of the animal organism, the physiological and therapeutic effects of which are as follows: Butyric acid is the end product of butyric fermentation, with the lactic acid as an intermediate; lactic acid has probably much to do with digestion; it is a frequent constituent of the gastric juice, in the therapeutical uses of the same the appetite and digestion are improved.

Prout has suggested a relation between the excess of lactic acid in the blood and rheumatism, which was confirmed by Richardson, who produced endocardial inflammation by injecting it into the peritoneal cavity of dogs. Acetic acid, I believe, is principally of use in that it readily responds to the chemical law of combining with other matter to form salts in which form it enters the blood. The alkaline fermentation of urine is brought about by the organized ferments. In this process the urea is converted into carbonate of ammonia. In the presence of cellulose, marsh gas is evolved by the organized ferments. The various products of putrefactive fermentation vary according to the nature of the material—the micro-organisms present and the environment.

Most of the ptomaines elaborated by putrefactive fermentation are toxic to a greater or less extent; indeed, they are responsible for a great portion of the ills which we as physicians encounter every day. Indol, for instance, is a common alkaloidal poison, or ptomaine, elaborated in the alimentary canal, which at times is sufficient to cause severe attacks of convulsions. Tyrosin and putrescin, which cause severe attacks of vomiting and diarrhoea, frequently produce such a severe gastric and enteric distur-

ance as to bring about a condition of shock. Necessary to all forms of fermentation are heat and moisture, in the absence of which it is quite impossible for the process to ensue.

To me there is something very attractive about immunization against certain of the pathogenic micro-organisms, which have much to do with the elaboration of toxins, and I believe it to be applicable to state in this paper the theory of immunization, as it is principally with the fermentative changes brought about by micro-organisms that we are now dealing. Bacteriologists have demonstrated that every living organism is endowed with ability to generate protective substances, which have been termed antitoxins. This ability, however, is possessed in a variable degree by different organisms, dependent upon their normal or diseased state, and the species to which they belong. Entering the realm of intoxicants and anti-toxicants would perhaps lead us into a deeper consideration of our subject than it is our purpose to go, hence we will abstain by simply mentioning, in a relative way, that abnormal fermentation in the human body is evidence of an abnormal state, perhaps disease, functional or organic; a subversion of the laws governing our physical existence in some measure has brought about the disturbance. Disproportion of the elements required for the preservation of the equilibrium of nutrition, metabolism, etc., exists; derangements follow, fermentations ensue and intoxications result, which disturb physiological function, according to kind and quality, the severity of its manifestation depending upon quality of fermentative results, and the ability to eliminate or of the system to elaborate an antidote, antitoxin or antiferment.

In nature all bodies elementary or compound are governed by laws regulating life and death, the latter makes the former possible by fermentative decomposition, and the former makes the latter possible by fulfilling a law of nature, i. e., that all created

things must die, and to die is merely to change the state. In the body we have a compound of numerous elements, among which we may mention carbon, oxygen, nitrogen, hydrogen and sulphur. Out of these elementary bodies we have an endless amount of compounds formed, and, as I have said elsewhere, if these compounds be protected from the action of organized ferments, they will retain their form, but having the omnipresent organized ferment with the devitalized compound, in obedience to nature's law, the ferment must live and multiply. It accordingly abstracts an atom of one or the other of the composing elements, when the compound is at once broken up, i. e., broken up into other compounds. By way of illustration, consider with me the changes wrought when grape sugar is acted upon by the *saccharomyces*—an organized ferment—alcohol is the result, and carbonic acid gas is set free. Acting upon albuminoid bodies, which have an elementary make-up of hydrogen, carbon, nitrogen, oxygen and sulphur, sulphuretted hydrogen is evolved, together with other gases of a complex chemical constitution. The law of chemistry holds good at all times, i. e., elementary bodies having an affinity for each other unite in definite quantities to form a definite chemical compound; hence it will readily be understood that a disturbance of the quantity of elements in a compound will at once break up the old into new and definite chemical compounds, either complex or simple in character; accordingly, when we have the albuminoid compounds broken up, we may have a great variety of compounds resulting, as illustrative putrescin, with a make-up from the elements of carbon, hydrogen and nitrogen and typhotoxin, with an elementary base of carbon, hydrogen, nitrogen and oxygen. Both of these ptomaines are violent poisons to the human body. A great many of these alkaloidal poisons or toxalbumins might be mentioned, all of which have been isolated and experimented

with, and all of which are isomeric, but the above are quite sufficient for our purpose. Against the action of these organized ferments which produce these alkaloids, ptomaines or toxins, life with normal health produces a certain immunization which is protective, and I do not believe it entirely due to the phagocytic action of the leucocytes, but to an antitoxin which is generated in nature's own laboratory, and which genesis is stimulated or brought about by the presence of the invading foe. We know that nature endows the young and tender plant with the ability to protect itself against the action of the omnipresent saprophytes during its life, and we accordingly consider it a general law of nature for the protection of all organized life. The avenues by which these ferments gain access to the body are quite numerous, as by the food we eat, the water we drink, and the air we breathe. The invasion is so great that one might wonder at the possibility of functional life to exist, but in addition to the *vis medicatrix naturae* of which I have spoken, we have the wise provision of nature, which makes certain demands on elementary bodies for the nutrition of the cells which go to make up the body, and this law will be obeyed if the conditions are proper and equilibrium be perfect.

"Fermentation fever" is a disease recognized by some authors; the term was devised by von Bergman, his theory being that it was caused by the presence in the blood of fibrin ferment; this ferment is due to changes in the leucocytes, and it unites with fibrinogen, and forms fibrin, which is the coagulating substance.

We have thus far spoken only of the organized ferments, and now a word in regard to the unformed. These unformed ferments act in a purely chemical way; as a rule they are readily soluble in glycerine, and are precipitated by alcohol. As an illustration, we may mention pepsin, ptyalin and diastase of malt; their action is principally by catalysis, but mainly hydrolytic. The function of all ferments, however, is to change the composition of the body acted upon into new and different compounds, which are either detrimental or beneficial to the human organism.

Secondary Department of Official Transactions.

[Addresses and papers read at the meeting of the Medical Society of the State of Pennsylvania, at Lancaster, May 17 and 18, 1898, already published elsewhere.]

ADDRESS IN SURGERY.

By W. L. ESTES, M. D., OF SOUTH BETHLEHEM.

"Surgery has reached its zenith, and no advances of any value or magnitude may be expected in the future." This remark, said to have been made by a distinguished English surgeon some ten years ago, seems ludicrous indeed in reviewing the work done in surgery during the last year alone. This work is so considerable that I shall not, in the short time allotted to this address, attempt to give more than a sketch of a part of it, and then draw some conclusions which I trust may receive the endorsement of this society, the members of which are known to be thoughtful students of medical progress, and are accustomed to note the trend of scientific endeavors.

The brilliant operation of Schlatter, of Zurich, in successfully removing the whole stomach from a human being, stands perhaps foremost amongst the achievements of the year. As an exhibition of perfection in surgical technique, it is remarkable even in this day of asepsis; as a contribution to the physiology of digestion, it is even more valuable however. While I do not believe it should set aside conclusively many deductions founded upon Dr. Beaumont's classical experiments on the healthy stomach of Alexis St. Martin, it gives us most important suggestions with reference to the proper status of the stomach, and the unthought-of possibilities of intestinal digestion. The vicarious intestinal assumption of gastric function in Dr. Schlatter's patient was reached only after a long and very gradual process, as the history of the case shows.¹ The stomach of the old woman had, at the time of operation, been reduced to a small cavity with thick, indurated walls;

every vestige of glandular tissue was choked by the cancer, so that its sole function at the time of operation and probably for some time previously, had been simply to serve as an imperfect passageway for the food into the intestines. What little digestion had been possible was done by the intestines; the stomach was not only the seat of the poison producing neoplasm, but was entirely cut out of the physiology of digestion.

Surgeons who wish to repeat Schlatter's operation should bear this in mind. They ought also to remember that Schlatter's case was unique in that while the whole stomach was involved, the neighboring glands and omentum were not implicated, and the stomach was still freely movable and unattached by adhesions. To find these conditions combined in the same patient must be exceedingly rare.

Another notable instance of ablation and the marvelous adaptability of the gastrointestinal tract was the case of Shepherd.² In extirpating a thirteen-pound fibromyoma of the mesentery, Shepherd was obliged by dense adhesions to remove seven feet eight inches of the small intestine of a man, who not only made a prompt recovery, but rapidly gained in weight afterwards.

Equally remarkable was the operation of Mr. Frederick Treves³ in removing the whole descending colon and rectum from a child who had idiopathic dilatation of the colon. Colotomy having failed to relieve the child, about eight months after this operation Mr. Treves did the second operation, which consisted in exsecting the whole colon from its flexure in the left hypochondrium, and the rectum, and then bringing the end of the transverse colon down to the anus and suturing it there. The result was a complete relief of all the symptoms, and a happy recovery of the child.

Hepatic and renal surgery have had a great impetus during the last year. Mayo Robson, in England, Lange, Senn, Halsted, Murphy, and Fenger, in this country, have

done excellent work in cholelithiasis; while the labors of Kelly, Weir, Fenger, Gerster and others have done much in advancing the technique of renal surgery. The impetus given by Kelly in this country, and by Pawlik on the continent, to ureteral catheterization, has led to routine examination of kidneys and ureters separately, and has made it possible to diagnose so surely that many brilliant operations on the ureters and kidneys have been performed. The future promises much for this line of work, and this will result in saving many kidneys and lives.

Besides this most excellent work Kelly has inaugurated, with the help of Noble, and a few other conservative men, an era of conservatism in gynecology. These surgeons now enucleate uterine fibroids or myomata, without extirpating the organ itself; they recommend the enucleation of tumors of the broad ligament, without sacrificing the ovaries, and even treating puerperal septic metritis without sacrificing the uterus in many cases.

Kelly's demonstration of the possibility of the air-distension method for cystoscopic examinations of the bladders of men is also of great importance.

Dr. J. B. Murphy has shown that it is quite possible to unite divided blood vessels, and to repair torn vessels without obliterating their lumen or interrupting permanently the flow of blood through them, and he has thus made it possible to preserve important organs or members in case of accidental injury to their principal vessels.

The employment of skiagraphy, which promised much, has been shown to be of limited application, and while most useful in a restricted employment, the variability of tubes and currents, to say nothing of the plates used, make it very difficult to lay down any very helpful and certain rules for the general use of the X-rays. Besides, the very disagreeable burns which have resulted from too long exposures indicate that photographic investigations ought, in their mechanical parts, to be entrusted to a limited

number of experts, with fixed, properly tested, and well-known apparatus. The fluoroscope, however, is a most valuable agent in employing X-rays, and even to unskillful operators, with a little practice, it will render fruitful results.

The addition of formaldehyde to the sterilizing armamentarium has proved a valuable acquisition. For sterilizing knives and edged instruments generally (by its vapor), it seems almost an ideal agent; and it will perhaps soon divide honors with dry heat and steam for the sterilization of dressings.

The recrudescence of the very important discussion of how best to sterilize and prepare the hands for aseptic operation has resulted in the adoption very generally of some form of glove. The ideal glove material has yet to be discovered, but thin rubber gloves seem to have the best endorsement at present.

Schleich's general anæsthetic mixture, which at first seemed to promise much, has not received the hearty endorsement of American surgeons. In an experience of 38 cases, the writer has found that while anæsthesia is easier as a rule, and cyanosis is not as common as with ether, vomiting, especially late vomiting, is just as common and more distressing. Dr. Willy Meyer, in a recent letter published in the *Medical Record* (*Medical Record*, April 22, 1898), called attention to some investigations made by Dr. Weidig at his (Dr. Meyer's) suggestion, which showed that the ordinary Schleich's mixtures are really mixtures, and not genuine solutions. The chloroform, petroleic ether, and sulphuric ether partly combine; no free chloroform could be found, but in each of the three solutions free sulphuric ether in varying proportions was found. Dr. Meyer also mentions the fact that Meltzer, who investigated the physiological effect of pure petroleic ether for him, found that it acts as a tetanizing agent on animals. It may prove not to be the innocent diluent that Schleich believed it was.

The mixture should therefore be used with great caution.

Traumatic surgery has received scant consideration during the last year, indeed for many years surgical investigations have been confined almost wholly to pathologic surgery. The distinctions between "general surgery" and "gynecologic surgery" will possibly soon disappear, and the two be merged, but there is gradually developing another special branch of surgery, which may be called traumatic surgery. In times of peace this specialty will belong chiefly to surgeons connected with railway, mine, and mill hospitals. It is a great pity that this class of surgeons, on account of excessive work and modesty, has not given the profession the product of its labors and experience in well-considered, systematic, and comprehensive monographs. The present "little unpleasantness" with Spain may serve to give a fresh impetus to acute surgery, and in the next few years traumatic surgery may again rank amongst the foremost endeavors of our progressive age.

It is a great mistake to believe that the "last word has been said" in traumatic surgery. Antisepsis and asepsis have done marvels for conservative attempts, and in lowering the general death rate after injuries. Of very great importance, in this branch of surgery, is the fact that acute anæmia is the dominant factor in ordinary surgical shocks. The writer, in urging this doctrine about ten years ago, gave certain comparative statistics from his own work to emphasize his point. In 1894 in a monograph entitled, "A Contribution to the Study of Modern Amputations," this doctrine was again brought forward, and it was shown that by practice founded upon it, the mortality rate in a series of 180 single major amputations (which included seven hip-joint amputations, with only one death) was reduced to 2.77 per cent. against his former rate of 7.89 per cent. in 114 cases; the double synchronous amputations in 25 cases was reduced to 12 per cent. mortality,

against 46.25 per cent. in 13 cases, after the old practice. Since the publication of the foregoing statistics, there have been 84 single major amputations and 2 deaths, a mortality rate of 2.38 per cent., and 17 multiple amputations and 2 deaths—11.7 per cent. mortality. In writing some years ago on the mortality rate of modern amputations, the writer stated that he believed the results after single major amputations ought to be as good as those after the average ovariectomy operations. It seems he has now the satisfaction of having realized this anticipation. The argument for the method—if one can call it a method—is, as observation shows, that by far the majority of deaths after modern amputations occur within forty-eight hours after operation, from exhaustion or shock, and as this so-called shock is a condition brought about by acute anæmia (great loss of blood), it is bad surgery to operate upon a person reduced almost to a moribund condition, when by careful antisepsis and the employment of elastic constriction over the crushed tissues, no evil is likely to result for thirty or forty hours, and during this time by the employment of active stimulation with strychnine and saline enemata the patient may again have his vessels filled with blood, and be brought to a condition which will bear a major operation.

The subject in acute or traumatic surgery which has received some commensurate consideration during the last year is fractures. This renewed discussion is probably due to the interest given the subject by the employment of X-rays, and the comparative accuracy with which the friends of the patient, as well as the surgeon, may now determine how well the bone has been "set." In this field the writer predicts that radiographs are likely to be disturbing factors as well as useful instruments, and that they will multiply suits for malpractice and damages until a long series of investigations and observations shall prove that it is the exception and not the rule for the surgeon

to be able to make exact coaptation and retention of the bony fragments after a so-called simple fracture. The general tendency of to-day is the simplification of apparatus, and the allowance of more freedom of motion and locomotion in the treatment of fractures. Of far greater importance, however, is the gradually growing belief that the majority of so-called "simple fractures" are far from being so indeed, and that explorations by incision and adjustments of fragments by sight are not only justifiable, but in many instances absolutely essential for proper treatment. An accumulating array of instances has shown these incisions do not augment the danger when the operation is done with proper aseptic precautions, and that they markedly improve the results of treatment. The open method of treating fractures in proper cases is now not only the safe method, but the proper and imperative method of handling many fractures.

The most opportune and most suggestive paper of the year was the one read before the Practitioners' Society of New York, by Dr. McBurney, on "When to Operate." This is a vital question in surgery, and one which in many cases is far from settled. This is also a question in which surgeons ought to strive to indoctrinate family practitioners, for upon them in many instances this matter bears most heavily. Many organs and members have been sacrificed, and many lives lost because the medical man in charge had not made up his mind, or did not know when to operate. The discussion of Mr. Marmaduke Shields' paper on "Immunity and Latency After Operations for Cancer of the Breast," before the Royal Medical and Chirurgical Society of England, by such men as Pearce Gould, Watson Cheyne, W. H. Bennet and Fred. Treves, shows that the whole question of cancerous invasion, growth, and cure are far from settled, even in the most maturely thoughtful and progressive minds. It is generally conceded now-a-days, however, that preceding what

may be called the invasion of cancer, there is a pre-cancerous stage, and that cure may be confidently expected if the tumor be thoroughly removed during this first stage. This fact ought to be thoroughly established, and be received by the whole profession as a matter of the most vital importance. Family physicians should be made to believe that an incipient tumor should at once be submitted to the judgment of a surgeon, and that it is criminal to allow a patient to wait until ulceration, or enlarged lymphatic glands disclose the growth to be malignant. These pathognomonic signs also declare in many instances, the death sentence of the unfortunate patient; they indicate, also, that an extensive operation must be done, and the chances of recurrence at this time are greater than those of thorough eradication.

The removal of benign tumors ought also to be done as early as possible. Constant irritation, growth under pressure, or some dyscrasia of the patient operate to make simple papillomata, fibroids, and adenomata take on sarcomatous (myxomatous) degenerations, and the borderlands are so close that it is rarely ever safe to permit these tumors to develop as they will. It is far simpler, easier, and safer to remove these tumors in their very early growth, and it should be done.

The danger of general tubercular infection from a single focus of invasion is too little appreciated by physicians. The persistent enlargement of lymphatic glands, especially about the necks of children, those of diathetic parents especially, should receive early attention, and the knife ought to be used before they break down and suppurate. Inflammations involving the bones of diathetic children, especially a condition suggesting an osteomyelitis, require early radical operations. Many bones and limbs may thus be saved.

Now-a-days intestinal obstruction from any cause, but especially the so-called mechanical ones and those from hernia, should not be allowed to go on until a "typhoid"

condition and fecal vomiting indicate that profound septicæmia and gangrene of the gut have taken place. Dr. Fred. Kammerer, of New York, has called attention recently to a sign which nearly every surgeon of much experience has noticed, namely, circumscribed peristalsis, which is apparent to the sight at a very much distended point of the abdomen, is indicative of complete obstruction. When this sign is observed with the other ordinary signs and symptoms of obstruction, no time should be lost in performing an operation.

One would suppose that the much-written subject appendicitis had been so thoroughly discussed that little remains to be said on the matter of when to operate, and yet I dare say it is the experience of nearly every surgeon in active practice to see cardinal rules neglected nearly every week. It is so well established that unless a case of appendicitis improves in forty-eight hours an operation is imperative, one is astonished to find so many cases allowed to suffer, and in many instances to die, because this rule is neglected or not known. Furthermore the very important rule that an operation between attacks ought to be performed after a recurring attack of appendicitis of even a mild (so-called catarrhal) type, is entirely too often neglected.

Recent work in renal surgery has shown the great good of early operative exploration, and removal of calculi from the pelvis of the kidney. As soon as persistent and recurring pain, and microscopic and chemic examination of the urine, obtained separately by ureteral catheterization, have determined the probable presence of a stone in the kidney, an early removal of the stone will save the organ and restore the patient to health. It is of vital importance to remove a tubercular kidney as soon as the diagnosis can be made, and the other kidney determined to be healthy.

Later teaching and clinical experience show the great importance of early operation in obstruction of the bile ducts—espe-

cially the common duct. To wait for persistent jaundice with frequent rigors, high temperatures and frequent vomiting, before determining to operate, exposes the patient to fatal septicæmia, and complicates the operation by inflammatory adhesions, besides the great danger of perforation and general septic peritonitis.

I might continue these instances beyond your patience to hear. I trust I have said enough, however, to suggest to you the very great importance of recognizing the proper time for operating, and how vital it is in many instances not only to know this, but to faithfully and firmly practice it. There are a great many conditions, unfortunately, which remain still in doubt. To the study of these, surgeons should now give more attention. In order to know when to operate in any given case, it is necessary to fully understand and to appreciate the pathology of the disease or traumatism, as well as its clinical history; this feature of surgical investigation is too much neglected, especially in our country.

A recent notice of Stephen Paget's book on John Hunter, which appeared in the *Philadelphia Medical Journal** very aptly sums up what seems to me the lesson to be learned from a review of the year's work in surgery. It says: "The lesson of Hunter's life was never more needed than to-day, when mechanical conceptions of surgery are so dominant, and when technic has so largely replaced pathology." Improved technique has unquestionably greatly widened the bounds of surgery, and opened up vistas which to the daring and pushing surgeon seem well-nigh illimitable. The field of the general surgeon is encompassing that formerly sacred to the gynæcologist, and now encroaches upon the domain formerly given over wholly to the physician. Are we not going a little too fast? Empirical precedents and undigested observation and experience do not furnish stable groundwork for lasting scientific facts. It seems to me we are in grave danger of outrunning

physiologic and pathologic investigations in many surgical attempts. It is time "to cast an anchor to the windward" and wait for proper observations and the careful working out of our present location and bearings. Surgeons, of the United States especially, very much need more laboratories and fewer clinics.

Besides the prevalence of "mechanical conceptions of surgery," another serious matter is that the furor for operating and the lust for extirpations have taken fast hold upon us. The surgeon who cannot enumerate his cases of organs removed by the scores is a beginner indeed, and has but reached the stage where he must rush into print with a new device or "an improved method" for a pusher on the high road leading to his century count! Radicalism has been rampant; it is high time painstaking, thoughtful and scientific conservatism should have a fair chance.

1. See Medical Review, Dec. 25, 1898.
2. Montreal Medical Journal, December, 1897.
3. Lancet, January 29, 1898.
4. Medical Record, November 3, 1894.
5. Lancet, February 26, 1898.
6. Philadelphia Medical Journal, March 26, 1898.

ORCHITIS, OR EPIDIDYMITIS, AS A COMPLICATION OR SEQUEL OF TYPHOID FEVER.¹

BY AUGUSTUS A. ESHNER, M.D.,

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J. D., a white man, 39 years old, engaged as a peddler, was admitted to the Philadelphia Hospital under my care on August 6, 1897, complaining of gradually progressing weakness, with a sense of vertigo at times. He had not felt well for two weeks, and had suffered from constipation. There had been no epistaxis, no cough, and no vomiting, and no headache. The man did not feel constrained to go to bed, although he felt a sense of weakness on walking. When admitted, the patient appeared to be dull mentally and his temperature was

101.4 degrees. The pulse was full, soft, and regular. The tongue was covered posteriorly with a slight brownish fur. The pulmonary resonance was preserved, the breathing was vesicular. The action of the heart was rhythmic and the sounds clear. The area of splenic dullness was slightly increased. Upon the chest and abdomen there were numerous rose-spots. The pupils were moderately full, and there appeared to be a slight tendency to internal strabismus. A specimen of blood was submitted to the bacteriological laboratory of the Board of Health, and in the course of a few days the report was received that it yielded a positive reaction to the Gruber-Widal serum-test. The urine was rather high in specific gravity (1025, 1030), and it contained some epithelial cells and leukocytes, as well as crystals of uric acid. It failed to respond to tests for albumin and sugar, and the diazo-reaction could not be elicited. The temperature rose but once above 102.5 degrees, so that only a single plunge-bath was required. In the course of six days the temperature had subsided to normal and it thus continued for nine days, when there was a slight exacerbation without obvious cause. After three days it again became normal. A month later there was a third elevation of temperature, which reached as high as 102.4 degrees, when it was found that the left testicle was enlarged, hard, and tender. From this complication also the patient convalesced nicely, and he was dismissed, cured, on October 14, manifesting, however, some degree of mental enfeeblement, which evidently had been present prior to the present illness.

My first impression upon noting the orchitis occurring as a sequel in this case of typhoid fever was that the relation is not an uncommon one, while I considered the lateness of its appearance as rather the unusual feature; but a study of the literature shows that the conditions are just the reverse. I reasoned that as parotiditis is a common complication of typhoid fever, and as orchitis is a common complication of mumps, orchitis might readily be expected to be a common complication of typhoid fever. As a matter of fact, however, orchitis is a rare complication or sequel of typhoid fever, and, when it does occur, it

1. Read in abstract.

appears late, i. e., at the close of the disease, or, more commonly, during convalescence, and not rarely, as in this case, after quite a considerable interval after defervescence. As to its actual frequency of occurrence definite knowledge is wanting. Ollivier² expresses the opinion that it is more common than reports would lead one to believe it to be, and he reports 24 cases collected from the literature, together with three of his own. Westcott, in Keen's recent admirable monograph,³ analyzed 32 cases, and I have succeeded myself in finding records of 42 cases, which, together with the one here reported, I have tabulated and analyzed in this paper. Liebermeister⁴ states that among 200 cases of typhoid fever observed during the years 1869-70 he encountered orchitis as a complication in 3. Sorel,⁵ among 871 cases of typhoid fever seen in the course of 10 years, observed orchitis thrice as a complication or sequel. On the other hand, Dopfer,⁶ among 927 fatal cases, makes no record of orchitis; and Betke,⁷ among 1,420 cases studied at the Basle Hospital, also finds no note of that condition; while Hölscher,⁸ among 2,000 fatal cases, records caseous epididymitis in but one. Merchison,⁹ in his classical work on "Fevers," does not refer to orchitis at all as a complication or sequel in connection with typhoid fever. Da Costa,¹⁰ in the eighth edition of his "Diagnosis," quotes only the case of Girode;¹¹ and Osler,¹² in the second edition of his "Practice," makes reference to the thesis of Sadrain¹³ and the cases therein reported, although the condition is not mentioned in his report of 229 cases seen at the Johns Hopkins Hospital.¹⁴ Brief reference to the subject is made also by Strümpell,¹⁵ Pepper,¹⁶ Roberts,¹⁷ Dreschfeld,¹⁸ and Anders.¹⁹ Wilson²⁰ states that "Urethritis, cystitis and orchitis may arise as a result of infection from catheters that have been improperly cared for;" while no mention of the subject has been found in the works of Bartholow,¹ Loomis,²² Fagge,²³ Lyman,²⁴ Flint,²⁵ Tyson,²⁶ and Wood and Fitz.²⁷

Duffey²⁸ has reported 18 cases of orchitis as a sequel of Malta fever, without previous gonorrhea or other definite cause, and considered to be of rheumatic origin. Of the nature of these cases it is not possible to speak with certainty. Some of them may have been instances of typhoid fever; but on account of the doubt, I have not included them in my statistics. I have for the same reason excluded the 4 cases reported by Ellis²⁹ as having occurred among 23 cases of Mediterranean fever.

Of the 42 cases that I have collected, 37 are derived from French sources, 2 from English, 2 from American, and 1 from a Swiss source.

The first reference to the subject of which I have been able to obtain any knowledge was made by Velpeau,³⁰ and is contained in the statement that toward the close of some grave fevers, such as enteric fever, variola, etc., acute orchitis, without demonstrable cause, is sometimes seen. Marcus³¹ had previously reported a case of suppuration of the scrotum in a case of "stupid nervous fever," but I have not had access to his paper, and am therefore unable to speak of the character of either the primary disease or the complication.

Chedevergne³² reports a case of typhoid fever in a young man, 17 years old, in which, on the tenth day of observation, during a bath, the left testicle was noticed to be swollen, and on the following day the epididymis also. There was no urethritis, no history of venereal infection and no effusion. Recovery had taken place in the course of ten days.

Bouchut³³ refers to a case of typhoid fever in a boy, four years old, in which, following suppurative inflammation of the left parotid gland on the 14th day, requiring incision with the evacuation of pus, the left half of the scrotum became painful and filled with fluid; the testicle, and especially the epididymis, together with the spermatic cord, also became painful. The general condition was grave and death resulted.

Hanot³⁴ has reported the case of a young man, 18 years old, who, during convalescence from typhoid fever, while still abed, developed right-sided orchitis, with subse-

quent suppuration and extrusion of testicular structure. The urine contained glairy matter, but no spermatozooids. After the lapse of a month the right half of the scrotum contained a hard nodule one-third the size of the left testicle.

Cervelle³⁵ records two cases of typhoid fever, in convalescence from which orchitis developed. One occurred in a man, 23 years old, who, following a rather long journey afoot after recovery from an attack of typhoid fever, presented symptoms of inflammation of the left testicle. There had been urethritis three years previously, from which recovery had taken place in the course of a month. Following the orchitis the epididymis also became involved. Great improvement had taken place in 18 days, although the testicle was still swollen and painful, and the tail of the epididymis was nodular, and more than two months elapsed before the patient was dismissed, cured, though with several points of nodular induration in the tail of the epididymis. The second case occurred in a soldier, 25 years old, who, eight days after returning to military service, following an attack of typhoid fever, was seized with symptoms of inflammation of the right testicle. Fluctuation developed and an abscess formed. Two incisions were made, setons introduced and abundant suppuration took place. Microscopic examination of the discharge disclosed the presence of pus and testicular structure. Suppuration continued for a month, and $4\frac{1}{2}$ months elapsed before the wound had entirely closed. The testicle remained enlarged and the epididymis nodular.

Widal³⁶ has reported three cases of orchitis following typhoid fever. In one left-sided orchitis, with epididymitis, developed on the third day of convalescence from an attack of adynamic typhoid fever. Resolution began in three days and on the eighth day the orchitis had subsided. Eleven days later a small, indurated nodule was still palpable in the tail of the epididymis. There was no venereal history and no trace of urethral discharge. The second case was one of adynamic typhoid fever in which orchitis and epididymitis developed on the tenth day of convalescence. Resolution occurred in eight days, leaving a small, indurated nodule in the tail of the epididymis. The third case also was one of adynamic typhoid fever, in which right-sided orchitis

and epididymitis developed on the 20th day of convalescence, following repeated copious hematuria. There was no effusion into the vaginal tunic of the testicle. A small induration remained in the tail of the epididymis. Widal states that Vallin, in the French translation of Griesinger's Treatise on Infectious Diseases by Lemaître,³⁷ cites a case of orchitis complicating typhoid fever from the service of Villemin; and he states that two colleagues informed him that they had observed the one two cases and the other three cases in the course of a long experience. In the discussion of Widal's paper Dieulafoy³⁸ related that he had observed a case attended with suppuration. At the end of 15 days suppurative inflammation of the vaginal tunic of the testicle developed, requiring incision and evacuation of the pus. Lereboullet³⁹ related that in the course of of an epidemic of typhoid fever characterized by the frequency of visceral and suppurative complications, he had observed two cases of orchitis during convalescence, but without suppuration.

Hanot⁴⁰ has reported three further cases in addition to the one already noted. One occurred in a young man of 21, in whom right-sided orchitis developed on the 16th day of an attack of typhoid fever. There was no effusion, and the epididymis was not involved. All trace of orchitis had disappeared in nine days. The second case was observed by Bouilly and occurred in a man of 40. On the twenty-fifth day of an attack of typhoid fever of moderate severity, during convalescence, the right side of the scrotum was found reddened, the right epididymis indurated and painful and the right testicle a little increased in size. There was no urethral discharge, and the symptoms disappeared at the end of eight days. The third case occurred in a man, 32 years old, inflammation of the right testicle being observed on the 19th day of the disease. There was no fever, no urethral discharge and the patient denied ever having had any, and the urine was free from pus. By the ninth day there remained only slight tumefaction of the right testicle, and on the nineteenth day the patient was dismissed, completely cured.

Sabourin⁴¹ reports the case of a man who developed febrile symptoms on the eleventh day of convalescence from an attack of typhoid fever, with a little pain in the right testicle on the following day. The testicle soon attained the size of a pullet's egg. The

epididymis was scarcely enlarged and hardly painful. There was no evidence of effusion into the vaginal tunic of the testicle. The left epididymis was the seat of a small cyst. Pain had disappeared by the sixth day, although the testicle was still enlarged and a cyst could be detected in the head of the epididymis. There had never been orchitis or any urinary disorder previously. There was no history of traumatism or of masturbation and there was no parotiditis.

Huchard,¹² in discussing Sabourin's communication, related a case in which orchitis developed during convalescence from an attack of typhoid fever. The elevation of temperature suggested a relapse, but after a day the testicle became painful.

Laveran,¹³ in the course of an article on "Mumps," states that he has observed four cases of orchitis in the sequence of typhoid fever; in one suppuration ensued, and the testicle was extruded. In all except the last the epididymis was principally involved. In three cases the epididymitis developed at the close of the attack of fever. There was no trace of urethritis. These cases are somewhat more fully elaborated by Ollivier.¹⁴ The first occurred in a man, 32 years old, who developed inflammation of the left testicle on the third day of convalescence from an attack of typhoid fever, with subsequent involvement also of the epididymis. The same testicle had been inflamed previously in consequence of an injury received in mounting a horse, but it had been restored entirely to normal. There was no urethritis. Recovery ensued within a week, leaving slight induration of the epididymis. In the second case, defervescence had been almost completed, when the left testicle became inflamed, and later, also, the epididymis. There was no history of gonorrhœa and no sign of urethral discharge. Recovery took place in the course of three weeks, leaving some induration of the epididymis. The third case occurred in a man, 22 years old, who was seized on the fifth day of convalescence from an attack of typhoid fever with symptoms of right-sided orchitis and epididymitis. There was no history of gonorrhœa and no urethral discharge; there had been no traumatism and no swelling of the parotid glands. Recovery ensued in thirteen days, leaving induration of the head of the epididymis. In the fourth case, the patient was seized with orchitis and epididymitis during the progress of an attack of grave typhoid fever. On opening the fluctuating

focus the greater portion of the testicle was cast off. Recovery ensued.

Manley¹⁵ relates a case in which, during convalescence from a mild attack of typhoid fever the patient was seized suddenly with inflammation of the left testicle. The epididymis was not involved, although the spermatic cord was tender for a short time. The testicle continued to ache for a month. There was no urethral discharge.

Larquier¹⁶ reports two cases of orchitis and epididymitis complicating typhoid fever. A man, 23 years old, was seized with symptoms of inflammation of the left testicle on the third day of convalescence. There was no trace of urethral discharge and no venereal history. The epididymis also became involved and slight effusion took place into the vaginal tunic. Recovery ensued within seven days, although slight nodular enlargement of the head of the epididymis persisted. The second case occurred in a man, 19 years old, who was seized with inflammation of the left testicle, followed by epididymitis, during defervescence from an attack of typhoid fever. There was no venereal history and the urethra was healthy. Recovery had taken place in nine days, with slight tumefaction of the testicle and the head of the epididymis.

Sadrain¹⁷ has recorded two cases, the second of which is reported also by Eloy.¹⁸ The first occurred in a man of 19, who presented cutaneous lesions of syphilis, in addition to symptoms of typhoid fever. On the 13th day of convalescence from the fever symptoms of inflammation of the left testicle appeared. The epididymis also became involved and a considerable effusion took place into the vaginal tunic of the testicle. The patient denied having had gonorrhœa, and pressure on the urethra failed to cause the escape of any fluid, although there had been, toward the close of the fever, symptoms of transitory catarrh of the urinary passages. The patient was greatly improved before the end of the week, and at the end of two weeks he was quite well, although slight enlargement and induration of the testicle persisted. The second case occurred in the service of Sevestre, in a man, 47 years old, in whom symptoms of inflammation of the right testicle appeared on the thirteenth day of convalescence. The epididymis was not involved and there was no effusion. There was no other genito-urinary complication. The patient was greatly im-

proved in the course of a week and was dismissed two weeks later.

Hamilton⁴⁹ has reported the case of a young officer, who exhibited on the 14th day of convalescence from an attack of typhoid fever, elevation of temperature, with acceleration of pulse and pain in the right testicle. Well-marked symptoms of orchitis appeared on the following day, but the epididymis was not involved, although the spermatic cord was tender on pressure.

Harrison⁵⁰ has reported the case of a man who was seized with inflammation of the right testicle twenty days after having been sufficiently convalescent from an attack of typhoid fever to undertake a journey; the epididymis was but slightly involved. There was no gleet or history of urethral discharge, and there had been no traumatism. On the 11th day fluctuation became evident, but exploratory puncture failed to disclose the presence of pus. On the 27th day two incisions were made, but only a small quantity of pus was evacuated. A portion of the testicle finally sloughed away.

Ollivier⁵¹ collected from the literature 10 cases to which he adds three under his own observation, and he reports in greater detail the four cases referred to by Laveran⁴⁷ and one of the three mentioned by Sorel.⁵³ Of Ollivier's own cases the first occurred in a man, 20 years old, who following an attack of mumps, suffered from inflammation of the right testicle, with consecutive atrophy. Three months later, on the 15th day of convalescence from an attack of typhoid fever, the left epididymis became the seat of pain and also enlarged; the testicle also was painful, but it did not become enlarged until the following day. The second case occurred in a hospital externe, who related that at the age of 14 years inflammation of the right testicle took place on the 20th day of an attack of typhoid fever, as convalescence was about to set in. Recovery ensued in the course of eight days. The third case occurred in a man 26½ years old, who was seized, on the 11th day of convalescence from an attack of typhoid fever, with inflammation of the left testicle, extending to the epididymis and the spermatic cord. Resolution had taken place at the end of 12 or 15 days, the testicle returning to normal size and all traces of induration disappearing. There was no history of gonorrhea, no urethral discharge, and there had been no sexual relations and no masturbation.

Tavel⁵⁴ reports the case of a man, 35 years old, who, at the close of an attack of typhoid fever, presented symptoms of inflammation of the left testicle. The epididymis also became involved. Aseptic puncture of a focus of suppuration in the testicle disclosed the presence of pus, in which were detected typhoid-bacilli, whose identity was confirmed by cultivation. The genito-urinary tract was free from disease.

Pein⁵⁵ reports a case from the service of Jaccoud occurring in a man, 20 years old, in whom symptoms of inflammation of the right testicle appeared on the 44th day of an attack of typhoid fever, on the 4th day of convalescence from a relapse. The epididymis was not involved, although there was pain on palpation of the spermatic cord. In the course of five weeks a small testicular abscess formed, in the pus from which were found typhoid-bacilli, whose identity was confirmed by cultivation and inoculation. The whole testicle was lost, while the epididymis remained intact. Convalescence was not finally established before the end of twelve weeks.

Sorel⁵⁶ refers to the occurrence, during convalescence, among 871 cases of typhoid fever observed during the ten years between 1879 and 1888, of epididymitis in two, on the right side in one and on the left in the other, and of right-sided orchitis in a third. The former remained free from fever; in the latter febrile symptoms were present, and the attack lasted eight days. The case cited by Ollivier⁵⁷ occurred in a man, 23 years old, who was seized, on the fourth day of convalescence from an attack of typhoid fever, with inflammation of the right epididymis, while the left testicle appeared diminished in size and consistence. There was no history of gonorrhea or of parotiditis.

Girode⁵⁸ has reported the case of a man, 29 years old, who, on the 23d day of an attack of typhoid fever, developed symptoms of inflammation of the right testicle. There was no urethritis. Death resulted from asphyxia on the sixth day of the complication. On post-mortem examination, a small amount of sanguinolent fluid was found in the vaginal tunic of the testicle. The testicle itself was, on section, of normal color and consistence; and the epididymis was discolored, edematous and infiltrated and presented at its center two small collections of pus that was shown, by microscopic examination, by cultivation and by inoculation, to contain typhoid-bacilli. Histologic study

disclosed the lesions of parenchymatous epididymitis. There had been during life albuminuria, indicative of the existence of a secondary infectious nephritis.

Hug⁵⁹ has reported two cases in which epididymitis developed as a complication during the third week of an attack of typhoid fever. One occurred in a boy of 11 years, the other in a man of 29. In the first the left epididymis was alone affected and recovery ensued rapidly; in the second the organ on both sides suffered and recovery was deferred to the sixth week. In neither was there any urethritis.

Messerer and Gasser⁶⁰ have reported the case of a man, 23 years old, who, following an attack of typhoid fever, passed bloody urine. Two days later, symptoms of inflammation of the left testicle manifested themselves, and subsequently the epididymis became a little hard, although not especially sensitive. There was no effusion into the vaginal tunic of the testicle. On the third day a drop of fluid obtained by aseptic puncture of the testicle was inoculated upon suitable culture-media, with the development of colonies of typhoid-bacilli. Slightly increased resistance of the epididymis remained.

Sallès and Barjon⁶¹ report a case of typhoid fever in which, 23 days after apyrexia had been established, symptoms of inflammation of the right testicle appeared, with involvement also of the epididymis. After a day or two a turbid sero-purulent discharge from the urethra was noticed, but no micro-organisms were found in it on examination. Three days later aseptic puncture of the testicle yielded several drops of sero-sanguinolent fluid, which, inoculated upon suitable culture-media, gave rise to the development of colonies of typhoid-bacilli. A slight effusion took place into the vaginal tunic of the testicle. Subsequently creamy pus was obtained on puncture and typhoid-bacilli developed in inoculated media.

Berthoud⁶² has reported two cases. In the first, a man of 20 developed, on the forty-eighth day of an attack of typhoid fever, symptoms of inflammation of the right testicle and especially of the epididymis. Little fluid was effused into the vaginal tunic. There was no history of venereal infection and no fluid could be expressed from the urethra. In the second case, which was attended with abundant and repeated epistaxis, inflammation of the left testicle

developed during convalescence from an attack of typhoid fever. The epididymis became indurated, but there was no effusion into the vaginal tunic. No fluid could be expressed from the urethra, although micturition was frequent, burning and distressing. The urine was cloudy and contained mucus and pus. After recovery a recurrence of the orchitis took place. The testicle returned to its normal condition, while the head and tail of the epididymis remained enlarged.

Finally,⁶³ Keen refers to the case of a young man of 15 in whom, during the early part of convalescence from a relapse of typhoid fever, a series of boils broke out over the whole body, in conjunction with a mucopurulent discharge, with scalding micturition. The urethritis subsided spontaneously in the course of a week or ten days. Later in the convalescence the right testicle swelled somewhat and became a little tender, and it remained ever afterward a little larger than the other.

Orchitis and epididymitis are considered together in this communication, for, although either may occur alone or before the other as a complication or sequel of typhoid fever, the association of the two is so intimate and so frequent as to render their separation neither desirable nor useful.

The foregoing are all of the cases that I have been able to collect, after a thorough search through the literature. The evidence favors, therefore, the infrequency of the complication. As the reports show, it sets in at the close of the fever or, more commonly, during convalescence. Thus, of 41 cases it occurred during the course of the fever in 12, and during convalescence in 29. It set in in one case during the second week of the fever, in five during the third week, in one during the fourth week, in one during the seventh week, in one at an unstated period of the disease, in three toward the close of defervescence, in eight at an unstated period of convalescence, in eight during the first week, in eight during the second week, in three during the third week, in one during the fourth and in one during the sixth week. There was no apparent

relation between the severity of the original disease and the occurrence of the complication, which attended mild equally with severe attacks.

The onset is, as a rule, abrupt, and may take place while the patient is still abed or after he has arisen and is up and about. The first manifestation is often pain referred to the scrotum, though sometimes there is a chill, with elevation of temperature, acceleration of pulse and headache, so that a recrudescence or a relapse may be suspected. The pain may involve the testicle, the epididymis and even the spermatic cord, and it may extend into the loin. Often a sense of weight or heaviness in the testicle is complained of. The scrotum may become red, tense and edematous, and effusion may take place into the vaginal tunic of the testicle. Such an effusion was reported in nine of the cases in this collection. The testicle or the epididymis or both become swollen and tender and they may undergo suppuration. Such an outcome was noted in nine of the cases. Micturition is sometimes attended with burning and the urine may contain the products of catarrhal inflammation, viz., mucus, epithelial cells and leukocytes. As a rule, however, there is no urethritis and no history of gonorrhea.

The testicle is usually attacked first, and in a considerable number of cases alone. In a smaller number the epididymis suffers alone or first. In the majority, however, both organs suffer. Thus, orchitis occurred alone in 13 cases, epididymitis alone in 6 and both orchitis and epididymitis in 20. Both sides seem to be attacked with equal frequency. The right side suffered in 18 cases, the left also in 18, and both sides in one. The complication lasts, in its acute phase, for about a week or 10 days; sometimes its duration is much protracted by suppuration; and often swelling and induration persist for a long time. In several instances the testicle was lost, wholly or in part. The complication occurs most commonly at the period of life at which typhoid

fever is itself most common. Thus of 26 cases in which the age is stated, 17 occurred between 15 and 29. The age-distribution of the cases in which information upon this point is given is as follows:

Between 1 and 4 years, 1 case.
Between 10 and 14 years, 2 cases.
Between 15 and 19 years, 4 cases.
Between 20 and 24 years, 9 cases.
Between 25 and 29 years, 4 cases.
Between 30 and 34 years, 2 cases.
Between 35 and 39 years, 2 cases.
Between 40 and 44 years, 1 case.
Between 45 and 49 years, 1 case.

Of the 43 cases tabulated, death occurred in two, and from causes not related to the complication under consideration.

Various theories have been advanced in explanation of the occurrence of orchitis or epididymitis in the course or sequence of typhoid fever. Thus, the lesions have been thought to be of epidemic character, or climatic or seasonal, or rheumatic, or due to masturbation or to catarrhal urethritis, or secondary to cachectic thrombosis of the spermatic veins or finally metastatic. Of all these explanations only two are worthy of serious consideration, viz., infection by continuity from the urethra and infection through the blood-stream. It is known that typhoid-bacilli are eliminated with the urine, and in a number of cases there have been present evidences of irritation or inflammation of the urethra. In one case (3)⁶⁴ the presence of glairy matter in the urine is mentioned. In another (24)⁶⁵ it is stated that symptoms of catarrh of the urinary passages were present. In a third (42)⁶⁶ the urine contained flocculi of mucus and pus. It is, therefore, easily conceivable that the infection may travel by way of the vas deferens to the epididymis and the testicle. In support of this possibility Berthoud⁶⁷ cites a case reported by Fraenkel in which, in conjunction with suppurative epididymitis, during convalescence from typhoid fever, there occurred also prostatitis; and in the pus pyogenic micrococci only and not typhoid-bacilli were found. It is pointed out that the urethra normally contains saprophytic and

pyogenic micro-organisms that may be excited into virulent activity by reason partly of the irritation of the urinary passages by the toxins eliminated and partly of the generally lowered vitality resulting from the long continuance and exhaustion of the primary disease. In the event of infection by this route it might be expected that the epididymis would be involved first, but in the larger number of cases the testicle is affected alone or first.

Metastasis is, on the other hand, such a common manifestation of typhoid fever, that this mode of involvement of the testicle, or epididymis, falls naturally into the realms of probability. Confirmation is given to this view by the detection of typhoid-bacilli, not only in the products of the local inflammatory process,⁶⁸ but also in the testicles of subjects dead of typhoid fever, but without clinical manifestations of orchitis.⁶⁹

The orchitis or epididymitis complicating typhoid fever presents certain points of differentiation from that of gonorrheal origin, while, on the other hand, it presents certain points of resemblance to that of parotiditis. From that of gonorrheal origin it differs in the pain being less acute, the swelling and redness less intense, the evolution more rapid, the invasion successively of testicle, epididymis, and sometimes the spermatic cord, in the rapidity of its course, in its limitation to one side, and in the absence of a urethral discharge, present or past. With the orchitis complicating mumps it agrees in its mode of invasion, the testicle being attacked first and the epididymis afterward, in involving the parenchyma of the organ, in its evolution, its course and duration being much the same, and in its limitation to one side.

The treatment differs little from that employed under other conditions, and includes rest in bed, local support, pressure, applications of ice or of hot fomentations, and of sedative and sorbefacient remedies. Anodynes may be required for the relief of pain and to secure sleep. The supervention of suppuration or sloughing will demand incision and evacuation.

[Since the completion of this paper I

have come into possession of the notes of an additional case most kindly placed at my disposal by Dr. Orville Horwitz. The patient was a physician, 22 years old, who was admitted to Jefferson Hospital, under the care of Dr. H. A. Hare, on January 29, 1898, with a history of having been ill for 10 days, with frontal headache lasting for four days, with pains in the lumbar region, and with general debility. There was diarrhœa, with copious watery evacuations from the bowels; and rose-spots were present upon the chest and the abdomen. Nose-bleed occurred after the patient came under observation. Examination of the blood yielded a positive reaction to the Gruber-Widal test. The urine was albuminous on each of three occasions, but tube-casts were not found. The disease pursued an ordinary and uncomplicated course, defervescence taking place on February 22, and the patient was dismissed, well, on March 13. On March 28 he was seized, without obvious cause, with pain and swelling in the left testicle. The pain was agonizing, and the swelling gradually increased until the testicle became many times its normal size. Dr. Horwitz noted the pain as being intense in a degree far beyond that ordinarily encountered in cases of orchitis of gonorrheal origin. The temperature was as high as 101 degrees between March 31 and April 2, and it reached 100.3 degrees on April 19. Otherwise, it was practically normal. There was also no urethritis or urethral discharge. A slight effusion into the vaginal tunic took place, but there was no noteworthy involvement of the epididymis. With the application locally of an ice-bag, and of mercurial and belladonna ointments, and the internal administration of opiates, pain was relieved and swelling subsided; but it became evident that an abscess was forming in the left half of the scrotum. Accordingly, an incision was made by Dr. Horwitz, on April 23, and a considerable quantity of pus, together with a portion of the testicle, was evacuated. Recovery from the operation was uncomplicated, and the patient was again well in the course of ten days. Examination of the pus, which Dr. Horwitz compared with the material found in softened gummata, disclosed the presence of pyogenic cocci only, and not of typhoid-bacilli.]

I beg to append in tabular form the cases considered in this communication, together with various points of interest in connection with them:

NO.	REPORTER.	REFERENCE.	AGE.	DATE OF APPEARANCE.	DURATION.	SIDE AFFECTED.	PARTS AFFECTED.	RESULT.	REMARKS.
1	Chedevigne.	<i>Thes. de Paris</i> , 1864, et. Larquier and Ollivier.	17	10th day of fever.	10 days.	L.	Testicle and epididymis.	Recovery.	Mild typhoid fever.
2	B. nchut.	<i>Traité prat. des Mal. des Végétaux des Inf. et de la Mère</i> , et de la Soc. Méd., 5. ed. Paris, 1867, p. 966.	4	20th day of fever.	.....	L.	Testicle and epididymis.	Death.	Grave general state; effusion
3	Hanot.	<i>Bull. de la Soc. Anat. de Paris</i> , xviii. Ann. 1873, 5. Ser., l. viii. p. 589.	18	During convalescence.	28 days.	R.	Testicle.	Extirpation of testicular tissue. Hard nodules in r. half of scrotum, one third size of left testicle.	Urine contained glairy matter; effusion; suppuration.
4	Cervelle.	<i>Thes. de Paris</i> , 1874, et. Larquier.	23	1st or 2d week of convalescence.	1 month.	L.	Testicle and epididymis.	Nodular induration of tail of epididymis.	Grave typhoid fever; effusion.
5	"	<i>Thes. de Paris</i> , 1874, et. Larquier.	25	8th day of convalescence.	4½ mos.	R.	Testicle.	Testicle enlarged; epididymis nodular.	Grave typhoid fever; effusion; suppuration.
6	Widal.	<i>Bull. de la Soc. Clin. de Paris</i> , 1877-78, l. p. 142.	3d	day of convalescence.	8 days.	L.	Testicle and epididymis.	Nodular induration of epididymis.	Adynamic typhoid fever of moderate severity.
7	"	<i>Bull. de la Soc. Clin. de Paris</i> , 1877-78, l. p. 142.	10th	day of convalescence.	8 days.	.....	Testicle and epididymis.	Nodular induration of epididymis.	Adynamic typhoid fever
8	"	<i>Bull. de la Soc. Clin. de Paris</i> , 1877-78, l. p. 142.	20th	day of convalescence.	6 days.	R.	Testicle and epididymis.	Nodular induration of epididymis.	Adynamic typhoid fever, grave type; hæmaturia.
9	Dienhafoy.	<i>Bull. de la Soc. Clin. de Paris</i> , 1877-78, l. p. 142.	.....	.....	.....	.....	.....	.....	Suppuration; evacuation of pus.
10	Lereboullet.	<i>Bull. de la Soc. Clin. de Paris</i> , 1877-78, l. p. 142.	.....	During convalescence.	.....	.....	.....	.....	.....
11	"	<i>Bull. de la Soc. Clin. de Paris</i> , 1877-78, l. p. 142.	.....	During convalescence.	.....	.....	.....	.....	.....
12	Hanot.	<i>Arch. gén. de Méd.</i> , 1878, vol. ii. p. 595.	21	16th day of fever.	9 days.	R.	Testicle.	Complete recovery.	No effusion.
13	"	<i>Arch. gén. de Méd.</i> , 1878, vol. ii. p. 595.	40	During convalescence, 8 days 25th day of fever.	8 days	R.	Epididymis.	.....	Typhoid fever of moderate intensity; testicle a little increased in size.
14	"	<i>Arch. gén. de Méd.</i> , 1878, vol. ii. p. 595.	32	19th day of fever.	9 days.	R.	Testicle.	.....	Effusion.
15	Sabourin.	<i>Bull. de la Soc. Clin. de Paris</i> , 1878-79, ii. p. 229.	.....	11th day of convalescence.	6 days.	R.	.....	Recovery.	Epididymis scarcely enlarged; cyst in head each epididymis.
16	Hinchard.	<i>Bull. de la Soc. Clin. de Paris</i> , 1878-79, ii. p. 238.	.....	During convalescence.	.....	.....	.....	.....	.....
17	Laveran.	<i>Dict. encycl. des Sc. Méd.</i> , l. xvii. p. 352, 1882. See also Ollivier.	.....	In course of fever.	.....	.....	.....	Testicle extirpated.	Grave typhoid fever; suppuration.
18	"	<i>Dict. encycl. des Sc. Méd.</i> , l. xvii. p. 352, 1882. See also Ollivier.	32	3d day of convalescence.	6 days.	L.	Epididymis and testicle.	Slight induration of epididymis persisted.	Epididymis principally involved.

REPORTER	REFERENCE	AGE	DATE OF APPEARANCE	DURATION	SIDE AFFECTED	PARTS AFFECTED	RESULT	REMARKS
19 Lavettan.	<i>Dict. encycl. des Sc. Med.</i> , t. xvi, p. 352, 1882. See also Ollivier.	.....	Close of defervescence 13 days.	.....	L	Testicle and epididymis.	Epididymis remained indurated.	Epididymis principally involved
20 Moutley.	<i>Arch. de Med.</i> , 22, t. xvi, p. 352, 1882. See also Ollivier.	.....	4th day of convalescence.	4 days.	R	Testicle and epididymis.	Induration of head of epididymis.	"
21 Languier.	<i>Thes. de Paris</i> , No. 203, 1852.	.....	1st week of convalescence.	10 days.	L	Testicle.	Recovery.	Mild attack typhoid fever.
22 ..	<i>Thes. de Paris</i> , No. 203, 1852.	.....	3d day of convalescence.	7 days.	L	Testicle and epididymis.	Slight tumefaction of testicle and epididymis.	Considerable effusion; typhoid fever of moderate severity.
23 ..	<i>Thes. de Paris</i> , No. 203, 1852.	.....	During defervescence.	9 days.	L	Testicle and epididymis.	Slight enlargement and induration of testicle.	Considerable effusion; typhoid fever of moderate severity.
24 Sadraim.	<i>Thes. de Paris</i> , 1852.	.....	13th day of convalescence.	1 week.	R	Testicle.	Recovery.	Suppuration.
25 Also Ely.	<i>Thes. de Paris</i> , 1852; <i>Union Med.</i> , Nov. 18, 1882, p. 818.	.....	13th day of convalescence.	1 week.	R	Testicle.	Recovery.	Suppuration.
26 Ham Hon.	<i>Lancet</i> , Dec. 6, 1882, p. 1039.	.....	14th day of convalescence.	.....	R	Testicle.	Portion of testicle sloughed.	Infusion of r. test. 3 mos. before, consecutive to mumps; ataxic typh. fever.
27 Harrison.	<i>Lancet</i> , 1883, t. p. 997.	.....	20th day of convalescence.	4 weeks.	R	Testicle and epididymis.	Recovery.	Typhoid fever of moderate severity.
28 Ollivier.	<i>Rev. de Med.</i> , 1883, iii, pp. 829, 861.	.....	15th day of convalescence.	10 days.	L	Testicle and epididymis.	Recovery.	Typhoid fever of ordinary severity.
29 ..	<i>Rev. de Med.</i> , 1883, iii, pp. 829, 861.	.....	20th day of convalescence.	8 days.	R	Testicle.	Recovery.	Suppuration in testicle; typhoid bacilli found in pus.
30 ..	<i>Rev. de Med.</i> , 1883, iii, pp. 829, 861.	.....	20th day of convalescence.	14 days.	L	Testicle and epididymis.	Recovery.	Suppuration in testicle; typhoid bacilli found in pus.
31 Tavel.	<i>Corr.-Bl. f. S. Pau, etc.</i> , Oct. 1, 1887, p. 590.	.....	Close of fever.	5 weeks.	L	Testicle and epididymis.	Atrophy of testicle.	Suppuration; typhoid bacilli found in pus.
32 Behn.	<i>Thes. de Paris</i> , 1891.	.....	4th day of convalescence from relapse.	12 weeks.	R	Testicle.	Recovery.	Suppuration; typhoid bacilli found in pus.
33 Sorel.	<i>Bull. et mem. de la Soc. des Hop. de Par.</i> , 3, ser. t. vi, 1889, p. 236.	.....	4th day of convalescence.	5 days.	R	Epididymis.	Recovery.	Suppuration; typhoid bacilli found in pus.
34 ..	<i>Bull. et mem. de la Soc. des Hop. de Par.</i> , 3, ser. t. vi, 1889, p. 236.	.....	Convalescence.	.....	L	Testicle.	Recovery.	Suppuration; typhoid bacilli found in pus.
35 ..	<i>Bull. et mem. de la Soc. des Hop. de Par.</i> , 3, ser. t. vi, 1889, p. 236.	.....	8 days.	.....	R	Testicle.	Recovery.	Suppuration; typhoid bacilli found in pus.
36 Giroud.	<i>Arch. gen. de Med.</i> , Jan., 1892, p. 43.	.....	23d day of fever.	6 days.	R	Epididymis.	Death.	Effusion; suppuration; typhoid bacilli in pus.
37 Hing.	<i>N. J. Med. Jour.</i> , Aug. 3, 1895, p. 151.	.....	3d week of fever; defervescence.	Improved rapidly.	L	Testicle.	Recovery.	Typhoid fever of ordinary severity.
38 ..	<i>N. J. Med. Jour.</i> , Aug. 3, 1895, p. 151.	.....	3d week of fever.	6 weeks.	R	Testicle.	Recovery.	Typhoid fever of ordinary severity.
39 Messerand Gasser.	<i>Arch. de Med. et de Pharm.</i> , t. xxv, 1895, p. 228.	.....	35th day of fever.	2 weeks.	L	Testicle and epididymis.	Slight induration of epididymis.	Grave typhoid fever; typhoid bacilli found.
40 Salles and Barjon.	<i>Gaz. des Hop.</i> , Apr. 16, 1896, p. 403.	.....	33d day of convalescence.	2 weeks.	R	Testicle and epididymis.	Slight induration of epididymis.	Effusion; suppuration; typhoid bacilli found.
41 Berthoud.	<i>Arch. de Med. et de Pharm.</i> , t. xxv, 1897, p. 1.	.....	48th day of fever.	10 days.	R	Testicle and epididymis.	Slight induration of tail of epididymis.	Typhoid fever of moderate intensity.
42 ..	<i>Arch. de Med. et de Pharm.</i> , t. xxv, 1897, p. 1.	.....	During convalescence.	5 weeks.	L	Testicle and epididymis.	Recovery.	Advanced typhoid fever; urine contained flocculi of mucus and pus.
43 Fichner.	<i>Arch. de Med. et de Pharm.</i> , t. xxv, 1897, p. 1.	.....	6th wk. of convalescence.	1 week.	L	Testicle.	Recovery.	Mild typhoid fever.
44 Horwitz.	Personal communication.	.....	34th day after defervescence.	5 weeks.	L	Testicle.	Recovery.	Typhoid fever of ordinary intensity; slight effusion; suppuration; only pyogenic cocci in pus.

As a result of the foregoing study I would make the following summary:

Orchitis or epididymitis, or both, constitute a rather rare complication or sequel of typhoid fever, setting in usually during convalescence, involving one or the other side, lasting in general a week or ten days, and, as a rule, terminating in resolution, although secondary atrophy of the affected organ or organs is not uncommon, while suppuration and destruction occasionally take place. The occurrence of the complication bears no relation to the severity of the primary disease, and it is most common at the period of greatest prevalence of typhoid fever. It is, in most cases, dependent upon infection through the blood with typhoid-bacilli, although the possibility of infection by continuity through the urethra with typhoid-bacilli or other micro-organisms cannot be entirely excluded. The testicle is usually affected first, and often alone; less commonly the epididymis is affected first or alone.

2. *Revue de Medecine*, 1883, III., pp. 829, 861.
3. *The Surgical Complications and Sequels of Typhoid Fever*, Philadelphia, 1898, p. 279.
4. *Ziemssen's Handbuch der speciellen Path. u. Therap.*, II. B. 1 Th., 1874, p. 189.
5. *Bulletin et Memoires de la Soc. Medicale des Hopitaux de Paris*, t. vi, 3 ser., 1889, p. 236.
6. *Munchener medicinische Wochenschrift*, 1888, p. 620.
7. *Deutsche Klinik*, 1870, Nos. 42 to 48.
8. *Munchener medicinische Wochenschrift*, Jan. 20, 1891, p. 43.
9. *The Continued Fevers of Great Britain*, London, 3d ed., 1884.
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11. *Loc. cit.*
12. *The Principles and Practice of Medicine*, New York, 1895, p. 20.
13. *Loc. cit.*
14. *Johns Hopkins Hospital Reports*, vol. iv, No. 1.
15. *A Text-book of Medicine*, Vickery's Translation, New York, 1887, p. 17.
16. *A Text-book of the Theory and Practice of Medicine*, vol. i, p. 97, Philadelphia, 1893.
17. *The Theory and Practice of Medicine*, ninth ed., Philadelphia, 1894, p. 151.
18. *A System of Medicine*, edited by Allbutt, vol. i, p. 827, New York, 1896.
19. *A Text-book of the Practice of Medicine*, Philadelphia, 1898, p. 43.
20. *A System of Practical Medicine*, edited by Loomis and Thompson, vol. i, New York and Philadelphia, p. 190.
21. *A Treatise on the Practice of Medicine*, fifth ed., New York, 1883.
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23. *The Principles and Practice of Medicine*, Philadelphia, 1886.
24. *A Text-book of the Principles and Practice of Medicine*, Philadelphia, 1892.
25. *A Treatise on the Principles and Practice of Medicine*, seventh ed. (Henry's Revision), Philadelphia, 1894.
26. *The Practice of Medicine*, Philadelphia, 1896.
27. *The Practice of Medicine*, Philadelphia, 1897.
28. *Dublin Journal of Medical Science*, Feb. 1, 1872, p. 97.
29. *Lancet*, Jan. 22, 1881, p. 161.
30. *Dictionnaire de Medicine ou Repertoire Generale des Sciences Medicales*, 2 ed., t. xxix, 1844.
31. *Archiv fur medicinische Erfahrungen*, Berlin, 1812, i, p. 546.
32. *These de Paris*, 1864; cited by Larkuier and Ollier, *loc. cit.*
33. *Traite pratique des Maladies des Nouveaux-nés de l'Enfance a la Mamelle et de la Seconde Enfance*, 5, Ed., 1867, p. 996.
34. *Bulletin de la Societe Anatomique de Paris*, xlviii, ann. 1873, 5, ser., t. viii, p. 589.
35. *These de Paris*, 1874; cited by Larkuier, *loc. cit.*
36. *Bulletin de la Soc. Clin. de Paris*, 1877-78, i, p. 142.
37. *Traite des Maladies Infectieuses*, traduit par Lemaitre, 2. ed., 1874.
38. *Bull. de la Soc. Clin. de Paris*, 1877-78, i.
39. *Idem.*
40. *Archives generales de Medicine*, 1878, vol. ii., p. 595.
41. *Bulletin de la Societe Clinique de Paris*, 1878-79, ii, p. 229.
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43. *Dictionnaire encyclopedique des Sciences Medicales*, 1882, t. xvii, p. 352. Reference is made to the subject also in *Nouveaux Elements de Pathologie Medicale*, par Laveran et Teissier, t. 1, 4. ed., Paris, 1894, p. 54.
44. *Loc. cit.*
45. *Lancet*, 1882, ii, p. 1065.
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52. *Loc. cit.*
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61. Gazette des Hopitaux, April 16, 1896, p. 463.
62. Archives de Med. et de Pharm. militaires, July, 1897, p. 1.
63. Loc. cit., p. 278.
64. Hanot, loc. cit.
65. Sadrain, loc. cit.
66. Berthoud, loc. cit.
67. Loc. cit.
68. Tavel, loc. cit.; Pein, loc. cit.; Girode, loc. cit.; Messerer and Gasser, loc. cit.; Salles and Barjon, loc. cit.; Belianti; Revista Gen. Ital. Clin. Med., 1890, No. 20, cited by Keen, loc. cit., p. 32.
69. Salles and Barjon, loc. cit., cite Chantemesse and Widal as having found typhoid-bacilli in the testicles of patients dead at the height of attacks of typhoid fever, though without symptoms of orchitis, and in the testicles of guinea-pigs inoculated with typhoid-bacilli taken directly from the human body.

HYPODERMOCLYSIS AND INTRA- VENOUS INJECTION; ELECTROL- YSIS FOR ANEURISM; CALCIUM CHLORIDE IN HÆMORRHAGE.

BY H. A. HARE, M.D., OF PHILADELPHIA,
Professor of Therapeutics in the Jefferson Medical Col-
lege, of Philadelphia.

I shall call your attention to-day to three topics, and in the brief space of time allotted to my paper will attempt to cover these subjects with sufficient clearness to give my remarks some practical value.

During the last two years I have frequently employed both intravenous injection of saline fluid and the introduction of saline fluid under the skin by the process known as hypodermoclysis, for the relief of various forms of toxæmia, and in every instance I have had reason to be glad that this method of treatment had been instituted. Those who are familiar with current medical literature will remember that French clinicians have recommended both of these methods in the treatment of every form of toxæmia which we meet with in practice, whether it be that due to an acute infectious disease, to septicæmia or to a toxæmia of renal disease or diabetes. Personally I have not employed either of these methods in the treatment of any infectious disease, save in typhoid fever, and then the injections have been given rather to combat collapse from hemorrhage than to overcome

poisoning. In the employment of this method I always use a concentrated solution containing various sterilized salts, designed to represent an accurate artificial blood serum, and while a .7 of 1 per cent. solution of common salt may be used under pressing circumstance, the stimulant and supporting influence of the salts which I commonly employ upon the general circulatory system and their near approach to the representation of normal blood serum should make them the choice of the physician wherever possible.

The apparatus which is used consists in an ordinary glass irrigation container, to which is attached a sterilized rubber tubing, which is armed at the tip by a small glass tube. A vein having been exposed, and a small clip being placed around the vessel near the proximal portion of the wound, a ligature is then placed around it in the distal portion, leaving a small distended sac of blood between the ligature and the clip. Under this portion is now slipped a ligature. With a pair of scissors a small V-shaped nick is made in the vein, and a glass canula attached to a short piece of rubber tube, the glass canula being armed with a shoulder is slipped into the vein through the opening made. Around this shoulder is now tied the ligature already mentioned. By means of a pipette some artificial serum is placed in the canula until it and the rubber tube attached to it are filled so that all air is expelled. By turning on the flow of fluid from the glass container, which is a foot or two above the patient's arm, all air is expelled from the rubber tube attached to it, and the two tubes are then joined together by slipping the glass end of the one into the rubber end of the other. In this way all danger of air embolism is avoided.

The fluid injected should, of course, be warmed to the temperature of about 100° to 102°, and should be allowed to flow very slowly into the vein, but under sufficient pressure to prevent the pressure in the vein

from pushing the blood back into the canula. This method may be used in cases of severe shock, in threatened death from hæmorrhage, and in the toxæmias of severe uræmia and diabetic coma. If the patient is strong enough and without exception, it his arterial tension is high, he should always be bled from a vein in the opposite arm, or in the leg, either before or during the injection, as in this way impure blood is removed and makes room for a pure saline which is flowing in, which not only takes the place of the blood which has been removed, but also dilutes the poison which remains and in addition flushes the kidneys and produces profuse diuresis and sweating. Should the condition be one of toxæmia and sweating does not ensue, the patient should be placed in a hot pack after the injection. When the condition is not pressing then hypodermoclysis is infinitely preferable to intravenous injection.

A large size sterile needle is attached to the tube of an irrigator, and a warm sterile saline is allowed to diffuse itself gradually through the subcutaneous tissues of the flank or the abdominal wall. The recovery of the patient under these circumstances is sometimes quite extraordinary, and while in the severe toxæmias patients are often not saved by this method, I have seen instances in which they seemed to be actually snatched from death. A number of these cases I have already reported, some of them in *The International Medical Magazine*, others in *The Therapeutic Gazette*, and still others in the *Medical News*. Others still I have not yet placed upon record. The harmlessness of the treatment, the fact that it is our only resource of much value against a serious condition, and that it does produce good results in a certain proportion of cases makes me anxious to see this form of treatment more generally resorted to.

The second topic to which I wish to call your attention is the treatment of aneurism by electrolysis. This method, as you probably know, is the refined result of a large

number of studies which have been made upon this often incurable affection, and is now that devised by Corradi, which has been utilized in this country a number of times by Dr. Stewart, of Philadelphia. Personally, I have only resorted to the operation in one case, because this is the only one which I have met with in which I deemed it justifiable.

The patient entered my wards at the Jefferson Hospital in the early part of January, 1898, with the history of syphilis, and of severe burn some years before. He suffered from shortness of breath and brassy cough, and the other symptoms which I will describe in the history, which I will read:

At the present time, about twelve weeks after the operation*, the patient is walking around the ward, and is on his feet during a number of hours a day. The bruit still remains absent, and the aortic murmur which was heard after the bruit disappeared has also nearly passed away. It is interesting to note, too, that the expansile pulsation previously present is now represented by an impulse not at all expansile in character and characterized by a feeble impulse similar to that of the apex beat of the heart in the healthy individual. The operation is as follows: The skin over the aneurismal sac having been carefully sterilized, a hollow gold needle, insulated by a porcelain-like material, is passed directly into the sac, and through the needle the blood actively spurts. Fine gold wire, which has been coiled upon a glass spool in such a way as to avoid kinking, is now gradually played through the hollow needle into the aneurismal sac, and in this case about 9 feet were passed in in this manner, the wire coiling itself in the sac. A large clay electrode attached to the negative pole of a battery is placed to the small of the back, and the positive pole of the battery is attached to the external end of the wire, and a current of 20 milliamperes is gradually turned

*July 7. The patient has been at his home for some weeks and has gained several pounds in weight.

on from the galvanic battery. After this has been flowing for a few minutes, the current is gradually increased until 60 or 70 milliamperes are passed, and this is continued for an hour or longer, until it is evident from the resistance offered to the external end of the needle that it has become fixed in the clot formed by electrolysis about the gold wire in the sac. The operation having been completed, electricity is turned off, the needle is withdrawn, the external end of the wire is snipped off with a pair of scissors close to the skin, and pushed under the skin, and a small antiseptic dressing is applied over the puncture. In my patient there was a considerable amount of profuse sweating, and other evidence of shock after the operation was completed, but I am inclined to think that this chiefly arose from the fact that he was an exceedingly nervous patient, and, secondly, was due to the fact that the negative electrode became displaced, and that his back was in consequence burned by the electricity. He recovered in a very few hours from the general indirect effects of the operation and did not find it painful, except in the respects named. Considering the utter futility of other forms of operation and of medicinal treatment, it seems to me that Corradi's operation deserves more attention than it has received from the profession. It is not difficult to perform, provided a proper case is selected, the operator has the nerve to perform it, and the proper electrical apparatus is at hand.

The third subject to which I wish to attract your attention I will deal with very briefly, it is the use of calcium chloride in the treatment of small oozing hæmorrhages. Dr. Wright, of Netley, England, as is well known, pointed out some years ago, that the use of calcium chloride distinctly increases the coagulability of the blood, but he also pointed out a fact which must not be forgotten, namely, that after calcium chloride is given in full dose for a number of days that a reverse effect is produced, and that

delay in coagulation occurs under its influence. The use of the drug, therefore, should not be persisted in over too long a time. During the past winter, I have had occasion to use calcium chloride in two patients, one of these a case of spleno-medullary leukemia, almost bled to death after a necessary minor operation, and while other means of controlling his hæmorrhage were resorted to, other than calcium chloride, I feel inclined to believe that the arrest of his hæmorrhage was, at least in part, due to this substance. The other patient was one suffering from repeated hæmorrhages complicating typhoid fever. Here, also other anti-hæmorrhagic methods were instituted. In any event the early hæmorrhages seem to be controlled by this method, although ultimately the man died from a very profuse hæmorrhage, and the post-mortem examination revealed the fact that the ulceration in the intestine was so malignant that nothing could have prevented erosion of a number of large vessels. Internal hæmorrhages are so difficult to treat that calcium chloride should be borne in mind as having rational uses under the circumstances that I have named.

SIMPLE AND SATISFACTORY METHOD OF EXAMINING THE URINE.

BY CHARLES W. DULLES, M.D., OF PHILADELPHIA.

I have chosen for my subject a homely topic, because I hope it may be useful to some of my colleagues to hear how easy it is to examine the urine systematically, as part of the work done to establish an accurate diagnosis.

I need not dwell upon the importance of such examinations, but may illustrate its usefulness in disclosing unsuspected conditions by two cases that have recently been under my care. One was that of a man of large means, who offered me an unlimited fee if I should cure him of psoriasis that had puzzled

others. As one of the first steps in my investigation, I had him send me a specimen of his urine. When I examined this, I saw the hope of a large fee disappear, for I found the man's urine to contain nearly eight per cent of sugar, and that (although he did not look like a very sick man or feel sick at all) he was more likely to die soon than to get well of his psoriasis—and this indeed happened.

Another more recent case was that of a man with unmistakable quotidian intermittent fever—the routine examination of whose urine showed that he had also glycosuria and cystitis.

Similar unexpected revelations have so often followed examinations that neither my patients nor I saw marked need for, that I make it a rule to examine the urine of every patient that comes under my care, except for trifling causes; and even these are sometimes included. In recommending a like course to those who have not already adopted it, I want to say how easy it is to carry it out. The books and the apparatus used in medical schools, and the lectures given on this subject might naturally persuade one that examining the urine is a difficult and laborious task. But it is no such thing. For more than twenty years I have examined and kept records of examinations of urine in very many conditions of general health or of disease, and I long since came to the conclusion that only a few ingredients of the urine are of such importance that they should be looked for in all cases. If they are duly watched, the careful practitioner may disregard all the rest that take up so much space in the most used treatises on analysis or examination of the urine, and be thankful that so plain a duty to his patients is so easy to discharge.

The details essential to a simple and a satisfactory examination of the urine cover the following points: quantity, color, clearness, odor, reaction, specific gravity, albumin, sugar, sediment. The apparatus re-

quired includes a so-called urinometer, a test-tube, blue litmus paper, a spirit lamp, some strong nitric acid, a solution of caustic soda or potash in water (one part to eight is a good strength) and a microscope. I also always have at hand some acetic acid.

The examination is conducted by asking about the quantity passed in twenty-four hours, looking at the color and relative clearness (or turbidity), smelling at the specimen, and testing its reaction with a strip of blue litmus paper, while its specific gravity is ascertained with the urinometer. Then urine is poured into a test tube to the depth of two inches, and if the specimen was alkaline, one drop of nitric acid (or two or three of acetic acid) is added. If the urine contained precipitated phosphates, the acid will clear the specimen up; if the turbidity persists, this is due principally to urate or to pus, blood or epithelium cells, and the specimen may be filtered if necessary. In any case, the acidulated (or normally slightly acid) urine is warmed gradually over the flame of the lamp until it boils gently. If albumin is present in any quantity worthy of serious consideration, it will show itself by the formation of the well-known whitish cloud. For the next step, a like quantity of urine is put into the well-washed test tube (or another one) and half as large a quantity of the solution of soda or potash is added. If this clears the specimen up at all, the fact shows that urates were present in excess, or perhaps pus. If much pus is present, the urine will by this test acquire a curious syrupy consistency. The mixture is now shaken and warmed, when any excess of phosphates will be shown by a dense flocculent clouding. Then the heating process is carefully continued until the boiling point is reached and maintained for a few seconds, when if any sugar is present it will be revealed by a change of color in the specimen, from a bright canary yellow, through orange and reddish brown, to black, in direct ratio to the proportion of sugar present. The lighter shades may be due to

other ingredients, but the darker ones are unequivocal signs of the presence of glucose. When one of the tests indicates the presence of albumin or sugar, further and perhaps other tests are desirable; but, on the other hand, when they give purely negative results, the patient has neither albuminuria nor glycosuria.

These simple tests having been applied, the sediment of the urine should be examined with the microscope. A good specimen may be obtained by allowing a test tube full of the urine to stand upright and quiet for twenty-four hours; or a bead of deposit may be secured in two minutes by means of a centrifuge. (My own comparative experiments lead me to think that two minutes on the centrifuge, at about two thousand revolutions a minute, is not nearly so reliable as natural sedimentation by rest and gravitation.)

The microscopical examination, which is indispensable to a complete investigation, requires that the examiner shall be able, from previous observations, or by comparing what he sees with good pictures of the things to be found in the sediments from urine, to recognize and properly class the findings in each examination; the most important being blood, pus, tube-casts, epithelium cells, and certain crystalline deposits. Into the details of this I cannot and need not now go.

One further suggestion I would make is, that in all cases a record should be made of the results of examinations of urine. It is well, I find, to have printed slips containing in a column the words I used above to indicate the points investigated, each slip having a blank for the name of the patient and the date when the specimen was passed, and that when it was examined.

Name.....

Date, passed.....

Date, examined.....

Quantity,

Color,

Clearness,

Odor,

Reaction,

Specific gravity,

Albumin,

Sugar,

Sediment. Quantity.

Microscopical examination.

When such slips are filled up, they may be put into one's case-book, or they may be kept in alphabetical order in a drawer or a portfolio. I keep my records together with what the stationers know as a "klip," that can be sprung on at the back, and holds the leaves together like those of a book.

In conclusion, I would say that, for clinical purposes, the only tests of urine that are of consequence are the ones I have mentioned. They are the only ones that add information of value in regard to diagnosis, although others are interesting scientifically and provide agreeable variety to clinical lectures. Moreover, the general practitioner should remember that some of the tests described in the books are so delicate that they are capable of demonstrating the presence of albumin or sugar in almost any urine; for this reason I think the good old tests that I have recommended are the best for general use. They can be carried out with a minimum of trouble, time, and apparatus, and I trust that a knowledge of this fact may contribute to the more general employment of this very important measure in diagnosis.

DISCUSSION.

Dr. Israel Cleaver. Reading: The writer has given caustic potash as the test for sugar. I think we all know if there is albumin in the urine, its presence will cause a vitiation of the test unless it is first removed. I think this is an objection to the use of caustic potash as a test for sugar. I would like to speak on another point in connection with this subject, and that is, its relation to examinations for life insurance. You know very well that many life insurance companies will not ask for and even prohibit the use of your own judgment as to when to make a microscopic examination of urine unless the application is above

a certain figure. I was glad to hear the reader say that he considered a microscopic examination as necessary as the chemical examination. I would like to see some influence going from this Society and our National Society in regard to this matter. We should memorialize the life insurance companies to do away with this prohibition and allow their examiners to make microscopic examinations and pay the requisite fee—not three, five, or ten dollars, but such a sum as the service is worth.

Dr. J. I. Johnston, Pittsburg: I wish to say that I consider the examination of urine most important in arriving at a diagnosis, but sometimes there is too much stress laid on the finding of a small amount of albumin or a few hyaline casts in the urine. Albumin may be present and not necessarily be indicative of organic disease. It is a well-known fact that after violent exercise, such as bicycle riding, albumin will often be found in the urine. There are some individuals in the urine of whom may be always found albumin in a small amount, but there is no nephritis. The greatest stress should be laid upon the microscopic examination. The criterion is to be found here. Of great aid to the examination of urine is the centrifuge, but caution must be used in basing a diagnosis upon microscopical examination after using this instrument. I venture to say that a few hyaline casts will be found occasionally in the urine of persons who are not suffering from true nephritis. Their presence should not be the cause of any great anxiety, unless there are other symptoms of disease present. After anesthesia from ether, hyaline casts may often be found in the urine. The most important points are the number and kind of casts found. I think the insurance companies would do well to insist upon and pay for microscopic examinations. I cannot see how any doctor who tries to keep up with the times can get along in his every-day practice without a microscope.

Dr. H. S. McConnel, New Brighton: Dr. Dulles' paper and the remarks of the speakers have been very interesting to me, especially as I am an examiner for some seven or eight insurance companies. I do not know of any prohibition in regard to microscopic examinations. There is certainly no such prohibition in the Equitable or New York Life. If you feel there is a necessity for a microscopic examination, you make it. I do not see why medical societies should go out of their way to protect insurance companies. They are abundantly able to protect themselves.

Dr. G. B. Massey, Philadelphia: There is one point in regard to every-day examinations of urine which deserves a little more consideration,

and that is, the amount of solids in twenty-four hours. For instance, if you wish to ascertain if there is constipation of the kidney, take the specific gravity of the total amount of urine passed in twenty-four hours and multiply the last two figures by the number of ounces. That will give you the approximate number of grains; compare this with the tables found in most works on physiology, which give the proper amounts of total solids corresponding with the weight of the individual. I have used this method successfully in my own practice.

Dr. T. D. Davis, Pittsburg: I wish to ask Dr. Dulles if he has ever investigated Whitney's test. It is a very valuable test in giving quantitative results. If you take a case of diabetes under treatment, it will very promptly show whether the treatment is benefitting the patient or not. It is simply a highly alkalinized copper solution with a test tube that holds a drachm. Bring to the boiling point and then drop in minim by minim until the solution is cleared. If it takes ten minims to clear this, there is so much; if it takes five minims, there is so much. I have used it in my practice and it seems very reliable. Whether it is accurate as to quantity I do not know, but it is undoubtedly of great value to show relative amounts of sugar from day to day in a patient under treatment. Whitney's test is easily carried around in a little box containing the test tube, dropper and solution. I find it very satisfactory in making tests for sugar. I would like to ask if others have tried it and found it reliable?

Dr. G. W. Hiatt, Pittsburg: Dr. Davis anticipated me in speaking about Whitney's test. I have at the present time the worst case of diabetes which I have ever seen, in a boy fifteen years of age. I had a sample of the boy's urine on my desk when the gentleman who takes orders for Whitney's test called and he made an examination. He said that the test was indorsed by the leading physicians, such as Dr. Hare, of Philadelphia. The gentleman made an examination of the specimen of urine referred to, and it contained fifty grains to the ounce.

Dr. C. W. Dulles, in closing discussion: I am pleased to see that this matter of everyday examination of urine is attracting the attention of practical medical men. There has been no point raised in the discussion with which I at all disagree. Of course it is well known that when one heats urine to which has been added caustic potash or soda certain ingredients give a slight color, but I tried to make it distinct that the presence of sugar was shown only by a very pronounced color change. This color change ranges from a most beautiful canary yellow to orange brown or black according to the propor-

tion of the sugar present. In this test there is no danger of confusion from the presence of albumin, although this can be precipitated and filtered out in any cases of doubt. The importance of the microscope was dwelt upon by two or three of the speakers, and I agree entirely with their remarks. Dr. Johnston spoke of not laying too much stress on the presence of either albumin or sugar in very small quantities, and what he says will be approved by all who have had much experience in examining the urine, but, at the same time, if the presence of either albumin or sugar is shown, any case deserves further and more particular investigation. Of course we all know that the hyaline casts are shown in small quantities in normal urine—it is the amount of these ingredients in connection with other symptoms that demands special attention. The main purpose of my brief paper was to indicate that a thorough practical examination of the urine can be made without the extensive and expensive apparatus advised in so many of the text books. There is a very general impression that the examination of the urine is a very intricate process, consuming time and attention which the general practitioner can ill afford to spare, and if it can be shown to be simple and easy, this may be expected to lead to its more frequent employment as an aid to diagnosis to the distinct advantage of both patient and physician.

THE SURGICAL TREATMENT OF COMMON DEFORMITIES OF THE FACE.

By JOHN B. ROBERTS, M. D., OF PHILADELPHIA.

The effect of facial disfigurement upon the earning capacity of an individual is generally recognized. Those desiring positions as household servants, nurses and salesmen are rejected at once if unsightliness of feature is at all conspicuous; and they may be refused by hypercritical employers when the want of comeliness is not great.

Facial blemishes sufficient to produce these results are likely to be subjected to surgical treatment in most urban communities; there the popular mind has become familiar with the resources and safety of surgical science. In more sparsely settled districts, however, and in cities of less advanced culture, men and women are frequently seen with most hideous deformities,

which could easily be removed or greatly lessened by simple and innocuous surgical procedures.

The effect of physical deformity upon the mental characteristics of the afflicted individual is often most deleterious. The timidity and consequent social ostracism, due to even very slight facial blemishes, are only fully realized by those whose professional activities bring them into contact with such cases.

Because of these influences upon the character and earning capacity of the patient, surgical interference is to be adopted for the relief of even slight deformities, which in other parts of the body would be deemed unworthy of attention.

Much more can be done to relieve these conditions than is generally appreciated. They require, however, the knowledge usually possessed by the general surgeon to be supplemented by the special training and manipulative skill of the ophthalmologist, rhinologist and oral specialist. It is probable that the limited attention given to the correction of these facial defects is largely due to the differentiation of specialism. The operator who knows how to relieve an ectropium, or to properly adjust an artificial eye, for example, may have had no experience in correcting deformities of the nose. He is an oculist alone, and therefore not accustomed to osteoplastic operations upon the nose and jaws. Again, the work may not be undertaken, or not completely done, because the surgeon is familiar with amputations at the hip-joint and extirpation of the uterus, but has never split up a canaliculus, or sawed away an intra-nasal spur associated with a crooked nose.

The partition of the facial structures to the various specialists has had, I am sure, a deleterious influence upon the development, and proper realization of the resources, of what may be called the cosmetic surgery of the face. This branch of surgery is very interesting; but requires for its successful performance the artistic apprecia-

tion of proportions, the delicate touch, and the specialized and small instruments of the oculist, aurist, and rhinologist. These must be added to the operative experience of the general surgeon, who is accustomed to large wounds and resections of bone, and who is not startled by hemorrhage from the internal maxillary or carotid arteries.

The operator can approach these cases with a great deal of confidence, because the very abundant blood supply of the face makes anæmic gangrene of flaps unusual, the bleeding which occurs is so accessible to operative hemostasis, and the shock of operation is in most cases unimportant. It only needs to have the operation well planned and neatly and artistically performed to insure success. The worse the deformity the greater as a rule is the satisfaction of the patient; because the improvement is so manifest, even when the final result leaves a condition that in normal faces would be considered a disfigurement. It is the patient, who has very little deviation from the normal, and who has become morbidly sensitive, that is apt to be dissatisfied with the result of the operative treatment. In these cases the mental condition must be treated both before and after operation. The line of treatment is that adapted to neuroses in other departments of medicine. Pleasant mental occupation, distraction from one's self, nerve tonics and the usual hygienic accompaniments are needed in these as in other neurasthenic patients. Surgeons are too apt to overlook these valuable adjuncts to perfect operative recovery.

An important point to insist upon is the necessity for repeated operative procedures. The patient, as well as the surgeon, should understand that it is often impossible to obtain a perfect restoration by one operation. It is frequently necessary to wait until nature has absorbed the inflammatory exudate and caused shrinking of the flaps, before determining what is the next step to be taken to further improve the appearance.

Haste at this stage often leads to unnecessary operations, or to unwise selection of lines of incision. At first, a crude restoration of parts may be all that can with propriety be done.

The methods used in plastic or reparative surgery of the face cannot be recapitulated in the time assigned me by the committee; and need not be, since they are those well known to the profession. Skin grafting, sliding and interpolation of flaps, osteoplastic operations, the introduction of non-absorbable substances, the construction of artificial organs, such as eyes and teeth, and the adjustment of celluloid or metallic substitutes for areas of lost tissue are employed. The selection and adaptation of these expedients must vary with the condition to be remedied and be left to the individual judgment and experience of the operator.

The conditions which can be improved by surgical and prosthetic treatment are numerous and varied. A catalogue of these would include nearly every disease of the differentiated facial structures. The field of cosmetic surgery of the face is almost limitless. It extends from tattooing a white scar on the cornea to the construction of an acceptable lower jaw or nose; from making a pair of prominent ears comely, to straightening a crooked nose or curing a salivary fistule; from removing a few freckles to remedying the distortion due to extensive burn or gunshot wound.

The object of this paper is to call attention to a greatly neglected branch of surgery; to urge the general surgeon to cultivate the thoughtfulness and manipulative skill of specialists; and to make the profession and public familiar with the great relief that can readily be given to a large class of unhappy patients—patients who are permitted to go through life handicapped because they know not the relief accessible to them.

A notice from the Chairman on Scientific Business will appear in next issue.

THE REMOVAL OF STONE IN THE BLADDER AT ONE SITTING— LITHOLAPAXY.

BY W. S. FORBES, M.D., OF PHILADELPHIA.

Professor of Anatomy Jefferson Medical College and
Clinical Surgeon to the Jefferson College
Hospital, of Philadelphia.

It is my purpose to place before this body certain statements relating to the operation of removal of stone in the bladder in this country and elsewhere. I shall confine myself to the statement of the results of suprapubic cystotomy and litholapaxy, the two operations that now hold sway, the one in this country and the other abroad. The advocates of suprapubic cystotomy assert that this operation is the more easily and quickly performed and that it is the safest operation for the patient. The evidence taken here and elsewhere demonstrates the fact that it is not the safest operation for the patient. It is in evidence that in the hands of excellent surgeons in extensive practice, the death rate following suprapubic cystotomy is not under seventeen per cent. (This is the statement of Mr. Gilbert Barling.) The high death rate is not the only objection to the operation of suprapubic cystotomy, though it is by far the greatest bar to its practice. We have seen fistulous tracks following it in many instances, and this accident is difficult to treat, and even when the incision has entirely healed up, the cicatrix gives way under pressure of the abdominal contents, and hernia results in a large number of cases we have seen months afterwards. One of the largest truss establishments in Philadelphia within the last month has written me the following: "In compliance with your request, I have taken the record from our books of all incisional hernia cases. By this I mean hernia existing in the line of incision, due to the absorption of the cicatricial tissue, the hernia tumor being markedly developed and well defined, and ranging from the size of a hickory nut to that of a cocoanut. In all we have had

fifty-two such cases within one year from this date (March 30, 1898); thirty-six of these cases are now in our hands for mechanical treatment. Fourteen of these cases followed suprapubic cystotomy operations; the remainder were the result of the so-called 'radical cure' operations, practiced for appendicitis and other abdominal troubles. We have accurate records, and the histories of all the cases we refer to. The hernia protrusions develop from six months to six years following the operation." Another truss establishment of the city of Philadelphia records the history of almost an equal number of such cases.

In a paper I presented to The American Surgical Association (see "Transactions," 1897), I published the result of all my work in litholapaxy, numbering thirty-two cases. I there alluded to the testimony of Keegan and Freyer. Surgeon Freyer says (Essay on Modern Treatment of Stone in the Bladder): "That in the government hospitals of Punjab and Bombay alone there were 7,694 litholapaxies performed on patients of all ages in four years (1891-'94), with 255 deaths, or a mortality of 3.45 per cent."

Keegan states (*India Lancet*, May 1, 1897): "In Punjab during the year 1895, in boys up to fifteen years of age, there were 509 litholapaxies performed, with a mortality of 2.35 per cent."

In regard to suprapubic lithotomy, Surgeon Keegan states: That "if suprapubic lithotomy is to be adopted as a routine practice, it must be shown that it gives better results than it does now. As a matter of fact, with surgeons in India, suprapubic lithotomy has made no way whatever," and, he adds, "It is never likely to do so."

I have now to state the result of the practice of Milton in Egypt and Baker in India in regard to litholapaxy.

Mr. Herbert Milton, M. R. C. S., Eng. (Lithotritry in cases of Stone, simple and complicated), in a paper, judicial in character, makes this statement: "The results obtained by suprapubic operation in children

are far from justifying the preference given it in some quarters." (And here he is alluding to American surgeons.) He says further: "Any statistical evidence in its favor is still wanting, and this while statistics, to be counted by many hundreds, have been published by various operators, showing a mortality of greatly under 5 per cent. for litholapaxy and perineal lithotomy." Milton for himself records a mortality of three in 141 cases. Among these successful cases Mr. Milton records the removal by litholapaxy of a 12 oz. stone from a patient 45 years of age; this patient's convalescence was rapid and his cure complete. It took two hours and five minutes to complete the operation. The stone was composed of urates and phosphates, and was more than usually dense. This is the largest stone by far ever removed by Bigelow's operation of litholapaxy. Milton has removed by litholapaxy in fifteen cases without a death, each case having a stone of over 2 ounces in weight.

Baker has published in *The Lancet* the result of his practice of litholapaxy during the last two years. In this period of time, he has had 404 cases of litholapaxy, with two deaths, a mortality of less than one-half of one per cent.

One death in 202 cases!

27 of these cases were under 3 years of age.

94 of these cases were over 50 years of age.

283 of these cases were between 3 years and 50 years of age.

The stone in 40 of these cases weighed over $\frac{1}{2}$ oz.

The stone in 23 of these cases weighed over 1 oz.

The stone in 4 of these cases weighed over 2 oz.

Our countryman Bigelow first taught here what Baker now so successfully practices in India.

Is not Baker's great act the rider of Bigelow's greater thought?

From the fear of torpedoes in the bladder, shall we still stand aside and let another continue to lead the way? Shall this thing be?

Sir, Peace hath her victories no less renowned than war. If we would snatch a victory from the harbor of the bladder, we must not rest, like the sluggish Spaniards, contented with our old ways, great as they once were, but steel clad, let us push on, and with skill defy the torpedoes that beset our way. Otherwise we must leave to others the command we once had of this great field of surgery.

THE SURGEON-GENERAL OF THE ARMY AND THE AMERICAN NATIONAL RED CROSS.

Surgeon-General Sternberg denies the statements that he is hostile to the American National Red Cross, and that he has refused to accept its assistance, and that as a result of this refusal there has been unnecessary suffering. He admits that he did object to the sending of female nurses with troops in the field engaged in active operations. There is a Red Cross Hospital Corps in the Army, of enlisted men, whose duty it is to render first aid to the wounded upon the field of battle and to care for the sick in division field-hospitals, and Dr. Sternberg believed that female nurses would be an incumbrance to troops during active operations; but so soon as serious sickness developed in the camps and it became necessary to treat typhoid fever cases in the field-hospitals, he gladly accepted the services of trained female nurses for the division field-hospitals; and in the general hospitals they have been employed from the first. The general testimony from the surgeons in charge of these hospitals has been that their services have been of great value. Very many of these trained nurses have been obtained through the assistance of the Red Cross Society for Maintenance of Trained Nurses, Auxiliary No. 3, and Dr. Sternberg expresses his high appreciation of the valuable services rendered to the Medical Department of the Army by this organization.—(North Am. Practitioner.)

... THE ...

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THE PREVENTION OF LEPROSY,

Dr. Albert S. Ashmead, of New York, is an enthusiast on the subject of the prevention of leprosy by governmental edict. In association with Dr. J. Goldschmidt, of Paris, he conceived the idea of an international committee on leprosy, whose function it should be to devise ways and means to induce the various governments of the world to forcibly isolate all the lepers in their respective countries, and to keep them isolated until, in the course of a generation or two, leprosy should be eradicated from the earth. The call for the recent leprosy conference in Berlin rather interfered with this plan of Drs. Ashmead and Goldschmidt, and consequently the conference had neither their sympathy nor support. Dr. Ashmead has now published a mass of letters which he wrote and received, and which quite clearly present his own views on this subject.

From these letters it would seem that Dr. Ashmead is an uncompromising opponent of what he denominates mere "talk," such as he regards the proceedings of the Berlin Conference to be, and is an advocate of nothing less than force in dealing with leprosy. We recognize his zeal in a good cause, but we cannot at all endorse

his methods of criticism and attack. His denunciations of the "non-contagionists," such as Sir Jonathan Hutchinson, Sir James Paget and Sir Joseph Fayrer, and his personal allusions to Hansen, Ehlers and other eminent leprologists, are not in the best taste, and we fear are not calculated to increase his own influence in his agitation of the subject of forcible segregation. We cannot believe that the Berlin Conference of Leprologists was held for the sake of mere talk and self-glorification. Leprosy presents many problems as yet for scientific investigation, and the civilized world will hardly accept Dr. Ashmead's dictum that the science of leprology should be swept to one side as so much waste matter, and that the only thing to do is to forcibly corral all the lepers of the earth, and wait patiently for them to die and thus settle the problem forever.

Dr. Ashmead claims that while leprosy is a highly infectious disease, the product of a bacillus, it is, nevertheless, impossible to find this microbe in the blood or to inoculate the lower animals with it: consequently there is no hope of a serum treatment. For him leprosy is not only incurable, but destined to remain so forever; hence he deprecates mere "talk," and clamors for forcible action. These are astonishing positions for any one to assume, and are so opposed to all scientific spirit and method that they certainly cannot win professional confidence for their advocate.

The obstacles in the way of forcible segregation of lepers in all countries are simply, at present, insurmountable. Dr. Ashmead, himself, with strange inconsistency, says that in Japan such an attempt would lead to civil war. He also depicts the social and religious prejudices that would be aroused in other oriental countries—and yet, in spite of this, he would abolish the scientists (who are mere "talkers") and appeal only to governments. In Hawaii, as Ashburton Thompson pointed out recently, segregation for 30 years has not eradicated leprosy, nor even

apparently diminished it, and the difficulties in the way of complete segregation, even in that small area, have been so great as to make the scheme almost impracticable. What would they be, let us ask, with the 100,000 lepers of Japan, or the 200,000 that are scattered through British India? What would not the religious and social, not to speak of the hygienic, difficulties be?

Is it possible that any one can seriously advise a precipitate crusade by government against a disease so entrenched, before the subject is thoroughly discussed and studied in all its phases?

We think that the subject of leprosy, far from suffering at the hands of the mere "talking" scientists, must find from them a solution of many of its still grave and obscure problems before the civilized—and especially the half-civilized—world will be ready to accept the impracticable schemes of those who profess to see no hope for the future except from rash and immature governmental interference.

We believe that it is the function of a government to assist in controlling the spread of infectious diseases, but this only can be done in such ways as are practicable and devised in accordance with scientific methods.

J. H. L.

THE FIRST REPORT OF THE MEDICAL COUNCIL OF PENNSYLVANIA.

The first report of the Medical Council of Pennsylvania, covering the results of four years, from March 1, 1894, has been issued. It should be a matter of congratulation to the medical profession of our state, that the fruits of their earnest efforts in securing medical legislation are now before them. The medical council, of whom one-half are non-professional, have taken a deep interest in developing the spirit and letter of the law. Their able secretary, Hon. Jas. W. Latta, has at some time been present at each examination. Supt. of Public Instruction, Hon. Nathan C. Schaeffer, has taken charge of the preliminary examinations in a way that is most satisfactory to all. The de-

tails of the report are conveniently arranged for reference, showing number examined by the respective boards; number of males and females; number of failures, and the average of each candidate. This has necessitated careful work in tabulation. A few errors in printing have been made, but not of any consequence.

The report credits the Board of Examiners, representing the State Medical Society, with having examined seventeen hundred and ten physicians, of whom two hundred and ninety failed, being about 16 per cent. of those examined. It should be known that quite a number of these are re-examinations, as can be ascertained by close reference to the lists from year to year.

The opportunity to refer to the results in different colleges is here presented, which demonstrates that the medical colleges in our own state, as a rule, occupy an advanced position.

There has been a gradual improvement in the length of term, and in the character of graduation examinations required by the Pennsylvania colleges.

The questions submitted by the Medical Council for the respective examinations are here given in full, which offers the profession an opportunity to gauge the standard that has been maintained.

This report should be in possession of the secretary of every county medical society in the state, as well as the respective county prothonotaries. This would do much to prevent illegal practice, as reference to this report would indicate the name of all physicians licensed since March 1, 1894.

W. S. F.

YELLOW FEVER INVESTIGATIONS IN THE U. S. MARINE HOSPITAL SERVICE.

About one year ago Passed Assistant Surgeon Eugene Wasdin (now surgeon) and Passed Assistant Surgeon H. D. Geddings, who had been making bacteriological investigations on yellow fever at New Orleans, were detailed by the President to make sim-

ilar investigations in Havana, Cuba. Their work at the two stations has just been made public in a report to the Supervising Surgeon-General of the United States Marine Hospital Service. Although the results obtained are not absolutely conclusive, they nevertheless go far toward substantiating the claims of Sanarelli as to the part played by the bacillus *icteroides* in the causation of yellow fever. Dr. Wasdin succeeded in isolating a bacterium from the blood of a living case of yellow fever at the Marine Hospital detention camp at Fontainebleau, Miss., that corresponded almost absolutely with the bacillus of Sanarelli, and to Dr. Wasdin thus belongs the honor of having found this organism for the first time in the United States. The investigations in Havana were very much interfered with owing to the unsettled condition of the city during the pre bellum days, and much of the work done there was on material collected in Louisiana and carried to Cuba.

In 16 cultures made the bacillus *icteroides* was found in 13. Of the bacillus X of Sternberg, the statement is made that it "is simply and solely a well marked and accentuated colon bacillus." It is further said that the similarity of the bacillus *icteroides* to the bacillus *coli communis* is not nearly so great as is that of the bacillus *typhosus*. The characteristics of the bacillus *icteroides* are given as follows:

"1. Form.—A small, rather fine bacillus, with rounded ends, and no tendency to fusiform shape, 1 to 2 micromillimeters in length, and about one-fourth as broad as long, occurring singly or in pairs, but never forming long chains from culture on solid media.

"2. Motility.—Very actively motile, with individual organisms, making decided excursions, or translations, across the field of the microscope. (In this particular the bacillus *icteroides* of Sanarelli differs essentially from the colon bacillus, which, while motile, is sluggishly so, while the bacillus *icteroides* is fully as motile, or even more so, than the bacillus *typhosus*.)

"3. Gas Production.—In 2 per cent. lactose bouillon, not previously treated by the colon bacillus, an amount of gas production not exceeding, as compared with the colon bacillus, the proportion of 1-4. In lactose and glucose bouillon, the muscle-sugar being destroyed prior to the addition of the lactose and glucose, by the growth of colon bacillus, there is absolutely no production of gas. (This is in great contrast with the colon bacillus, which produces a fermentation in both lactose and glucose bouillon, with abundant evolution of gases, having nearly or quite a definite chemical composition.)

"4. Production of Acid.—In litmus peptone solution a slight production of acid. (This is in marked contrast to the colon bacillus and the bacillus 'X' of Sternberg, in which the production of acid is very marked, and much in excess of that of Sanarelli.)

"5. Production of Indol.—The bacillus *icteroides* of Sanarelli planted in Dunham's peptone solution after twenty-four hours gives absolutely no production of indol upon the addition of dilute sulphuric acid and sodium nitrate. (This is in specially marked contrast to both the colon bacillus and the bacillus 'X' of Sternberg, the production of indol in the latter being very abundant and well marked.)

"6. The bacillus *icteroides* of Sanarelli does not coagulate milk. Specimens from various sources have been kept under observation in milk for as much as sixty days. (Various members of the colon group differ much in the length of time required to produce coagulation of milk. In some the change is produced in twenty-four hours; in some which have been under observation, nineteen days have elapsed before the change was complete.)"

Further observations, to be made by the same investigators, will doubtless throw much light on this subject, and in the end lead to a better understanding of the nature of the disease and better means of treatment and prevention.

K.

EDITORIAL NOTES.

The University of Pennsylvania has secured the money for building a new physiological laboratory, and plans for the building will be prepared. D. W. N.

Miss Maud Harshbarger, daughter of Dr. W. F. Harshbarger, of New Albany, was on October 5, joined in marriage to Dr. G. H. B. Terry, of Wyalusing. Dr. Terry was resident physician at the Philadelphia Polyclinic two years ago, and both he and the bride's father are active members of the Bradford County Medical Society.

C. L. S.

QUININE BI-SULPHATE PREFERABLE TO QUININE SULPHATE.

A writer in a Southern journal is authority for the statement that obscure and obstinate cases of malarial fevers, that resist the action of quinine sulphate, yield readily to the bisulphate. The latter salt (official like the sulphate) is declared to be better borne by the stomach, and is much more soluble in water, and consequently better absorbed.

K.

HYDROCHLORIC ACID FOR CHRONIC DIARRHOEA.

Dr. A. A. Jones, *Boston Medical and Surgical Journal*, recommends dilute hydrochloric acid as a remedy for chronic diarrhoea due to faulty digestion. Twenty to thirty drops are given after meals and the dose repeated in an hour.

OCTOBER MEETING OF PERRY COUNTY MEDICAL SOCIETY.

The Perry County Medical Society held its regular quarterly meeting in Maryville on October 20, and was entertained by Dr. David S. Funk, of Harrisburg, who read a valuable and eminently scientific paper on typhoid fever. A. V. V. D.

COUNTY SOCIETY NOTES

The 50th anniversary of the organization of the Bucks County Medical Society was celebrated at Doylestown on November 2. The following officers were elected for the ensuing year: President, Dr. O. H. Fretz,

of Quakertown; vice-presidents, Dr. R. C. Foulke, of New Hope; Dr. A. S. Wilson, of Bristol; secretary, Dr. A. F. Myers, of Blooming Glen; treasurer, Dr. Frank Swartzlander, of Doylestown; board of censors, Drs. G. M. Grim, of Ottsville; W. R. Staveley, of Lahaska, and W. R. Cooper, of Point Pleasant. Papers reviewing the progress of medicine and surgery in the last half century were read by Dr. W. R. Cooper, Dr. Joseph Thomas, Dr. Frank B. Swartzlander and Dr. G. M. Grim.

The Franklin County Medical Society held its annual election for officers on October 18, with the following result: President, J. H. Devor, Fort Loudon; vice-president, A. D. Dalby, McConnellsburg; H. M. Miley, Chambersburg; recording secretary, H. C. Devilbiss, Chambersburg; corresponding secretary, John Montgomery, Chambersburg; treasurer, David MacLay, Chambersburg; censor, J. J. Coffman, Scotland.

The Huntingdon County Medical Society met in regular session at Huntingdon, on October 18. Dr. R. Myers, of Huntingdon, read a paper on "Dyspepsia," and Dr. A. B. Brumbaugh one on "Eczema." A legislative committee was appointed, consisting of Drs. G. G. Harman, of Huntingdon; J. C. Stever, of Three Springs, and Thomas Tobin, of Warrior's Mark.

D. W. N.

STATE LABORATORIES.

New York state, which occupies an advanced position medically, has recently adopted new measures in its attempt to hedge the welfare of its citizens. For some time statistics have shown Buffalo and its vicinity to be a kind of cancer centre, and as a result of the labors of Dr. Roswell Park and others, the state has made an appropriation for the equipment and maintenance of a laboratory for the investigation of the cause, mortality rate and treatment of cancer. The laboratory will be in connection with the University of Buffalo and com-

pletely separated from political influences. This is a step which could be well emulated by other states, and especially by Pennsylvania. K.

OFFICERS OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

At the last meeting of the Mississippi Valley Medical Association, at Nashville, Tenn., the following named officers were elected for the ensuing year:

President: Dr. Duncan Eve, Nashville, Tenn.; First Vice-President: Dr. A. J. Ochsner, Chicago, Ill.; Second Vice-President: Dr. J. C. Morfit, St. Louis, Mo.; Secretary: Dr. Henry E. Tuley, Louisville, Ky. (111 W. Kentucky street); Treasurer: Dr. Dudley S. Reynolds, Louisville, Ky.

Chicago was selected as the next place of meeting and Dr. Harold N. Moyer, of that city, as chairman of the Committee of Arrangements. The exact date of the next meeting has not been determined. It will occur some time during the month of October, 1899. K.

OFFICIAL DRUGS ONLY IN THE CINCINNATI CITY HOSPITAL.

The *Therapeutic Era* states that Cincinnati's sick and injured will hereafter be obliged to get along with cheap medicines. This statement is based on an order by the trustees of the city hospital that no remedies be used that are not embraced in the United States Pharmacopœia. Said journal then laments that a number of proprietary articles may no longer be prescribed, and names among others several secret remedies which no conscientious physician should under any circumstance use, for to prescribe a remedy whose component parts are unknown is not only ignorant quackery but dangerous to the patient. In this respect we might say that the trustees of the largest free dispensary in Pittsburg have, for many years, enforced a similar rule to the great advantage of the patients and a substantial saving to the institution, and this latter saving in spite of the fact that only the best and purest of the

legitimate medicines are purchased. Even tablet triturates are frowned upon, the pharmacist being required to have all remedies in as fresh and recent a condition as possible. Moreover, in keeping with rational therapeutics, medicines are tested as to their pharmacopœial purity, a matter to which all physicians should pay greater attention and send patients to only such pharmacists who are known to apply tests and can guarantee the purity of the drugs they dispense. K.

DEATH OF DR. HENRY LANDIS.

Dr. Henry Landis, Fourth Vice-President of the Medical Society of the State of Pennsylvania, died recently at Reading. At a special meeting of the Berks County Medical Society, Drs. James W. Kaiser and M. Albert Rhoads were appointed a Committee on Resolutions on his death, and reported as follows:

Whereas, In the death of Dr. Henry Landis this society loses one of its most active and useful members and the community one of its most able physicians, and public-spirited and philanthropic citizens; therefore, as a tribute to his memory the Berks County Medical Society, in special meeting, be it

Resolved, That we, his brother members and professional associates, do bear testimony to his integrity, high moral character and professional accomplishments; to the uniform courtesy and kindness in his treatment of every member of this society; to his unselfish labors for the general interest and advancement of this society and our profession; and also, our appreciation for his liberality to this society.

Resolved, That we sincerely mourn his death and that our organization and the community at large in which he so zealously labored for the good of all have sustained in his death a severe loss.

Resolved, That we tender to his family our sincere sympathy; that a copy of these resolutions be spread upon the minutes and

published in the society's transactions; that a copy be presented to the family, and that the society attend the funeral in a body

A committee to prepare a biographical sketch of the deceased was also appointed, said sketch to appear in this journal at an early date. K.

PITTSBURG PATHOLOGICAL SOCIETY.

The Pittsburg Pathological Society was organized September 17, 1898, for the purpose of furthering the study of pathology and kindred subjects.

In a community rich in hospitals and professional opportunities, this society will, no doubt, be a powerful factor in keeping us abreast of the times in the study of disease. There is no more important field in the domain of medicine than that of pathology; none more interesting; and certainly none more useful in these days of rational therapeutics and scientific surgery. The differential diagnosis of neoplasms and the results of bacteriological invasion, trauma and toxins—studied to-day by methods undreamt of by the fathers—influence every practitioner of medicine and surgery.

The importance of this department in leading medical schools, and the presence of a pathologist in every hospital staff are significant; and it will certainly be most useful to the profession of Western Pennsylvania to have this society as a post-graduate training among us. Other cities have pathological societies doing good work, and we feel sure this new society will play no mean part in medical progress.

A museum for the exhibition and presentation of useful pathological specimens—so often carelessly lost to the profession—will be an important feature. A charter has been applied for, and the following officers elected: President, Dr. R. W. Stewart; vice-president, Dr. J. B. Crombie; secretary and treasurer, Dr. Wm. B. Ewing; and directors, Drs. E. G. Matson, R. G. Burns and D. C. Boyce.

J. I. J.

PENNSYLVANIA PHYSICIANS CLASSIFIED.

In another column will be found a classified list by counties of the physicians of this State, compiled from Polk's Directory for 1898, which is, perhaps, as nearly correct as any list attainable, though deaths, removals and other causes render such a work only approximately correct. The number given as members of a county society is compiled from the records of the state society, and is the number in each county who are members of some county society, but not in all cases members of the society of the county in which they reside.

If the number reporting as "regulars" be taken as approximately near the number eligible to membership, it will be seen that a little less than half of those who should be in affiliation with our state society are members of county societies. Nevertheless, 37 per cent. of all the physicians of the State are members in good standing in the fifty-seven county societies—not an unfavorable showing when it is remembered that 1,208 of the 9,042 physicians of the State are sectarians, i. e., they "prefer to call themselves by some distinctive characteristic, and thereby exclude themselves from the appellation of physician, pure and simple."

Again, taking the number reporting themselves as "regular" as approximately near the number eligible to membership, we find the membership of Juniata County Medical Society to be 93 per cent. of its eligible physicians; Elk, 89 per cent.; Clinton, 81; Montour, 78; Clarion and Perry, 77; Franklin and Lycoming, 76; Cambria, Jefferson and Warren, 73; McKean, 72; Sullivan (no society), 70; Bucks and Columbia, 64; Beaver, Huntingdon, Lancaster, Mercer and Somerset, 62; Clearfield, Delaware and Susquehanna, 61; Center and York, 60; Carbon, 58; Blair, Cameron (no society) and Potter, 57; Chester and Schuylkill, 55; Armstrong, 53; Mifflin and Tioga, 52; Indiana, 51; Forest (no society) and Northumberland, 50; Butler and Northampton, 49; Erie and Lehigh, 48; Westmoreland, 47; Bed-

ford, 46; Cumberland and Lackawanna, 45; Allegheny, Bradford, Greene and Snyder, 44; Lawrence, 43; Venango, 42; Crawford, 41; Berks and Dauphin, 40; Luzerne, Montgomery and Washington, 35; Philadelphia, 34; Fayette, Fulton (no society), Lebanon and Union (no society), 33; Wyoming (no society), 10; Adams (no society), 9; Wayne (no society), 5; Monroe (no society), 4; while Pike has no member.

The object of this article is to urge the officers and members of each county society to make some special and continued efforts to bring all eligible physicians into membership. Eligible physicians should not only be systematically invited to join, but should be repeatedly urged to unite themselves with the profession by joining the county society. The members of our societies, especially the officers, should see that the meetings are of practical value, that visitors and members receive a cordial reception and that all are made to feel that they have had a good time socially and have learned something of real value. This is the work of each member, old or new, but the fact that others fail in this duty and privilege is no excuse for any one to neglect the work. An enthusiastic secretary, president or even any prominent member can by earnest and unselfish efforts largely increase the interest of the meetings, and the increase of membership will follow.

To those physicians who are not members of a county society, which is very properly the only gateway to the state society and the American Medical Association, we commend the following extract from an editorial, "The Necessity For Organization," in the *Lehigh Valley Medical Magazine* of some years ago. The article closes as follows:

"At this time it is desired to present the duty of every physician in a county to unite with his local society, regardless of its condition, for the ultimate purpose of placing his chosen calling in the place it should occupy. The reasons for this are manifest.

"To secure the proper position of the profession requires a unification of the profession. And unification can only be brought about by efficient organization, which, in turn, must be preceded by the enrolling of those who are to be organized. It ought to be made very clear that that man or woman who, being legally admitted to practice medicine, does not unite with the local society places himself, or herself, in the same relation to the medical profession that a bush-whacker does to an army, or a bandit to a community. That man who manifests no interest in his profession will, in the last analysis, be very apt to forget the proprieties to be exercised toward the individual physician with whom he may come in contact."

C. L. S.

LET HIM GET WELL.

Dr. W. W. Keen, of Philadelphia, in discussing appendicitis at the Denver meeting of the A. M. A., concluded his remarks as follows. "I protest against the use of opium, except in rare cases, as it has a tendency to mask the symptoms of the disease and leads the patient to the grave. I protest against the argument of Dr. Niles, that every case ought to be operated upon and the appendix is never to be left. Out of 300 post-mortems on as many bodies it was found that 100 of the individuals had had appendicitis at some time in their lives and had all recovered from the disease. They all died of some other disease. I challenge the assertion that through surgical operations all but 2 per cent. of cases can be saved. I challenge any operator in the room to take 100 well persons and operate upon them without killing more than 2 per cent.. We all fail, gentlemen. I do not know why, but we all fail. I do not believe in operating on all cases of appendicitis. I'd rather have a live man with an appendix than a dead one without one. (Applause.) I do not believe with the witty Frenchman that no case is complete without a post-mortem. (Laughter.) If the patient is no worse after forty-eight hours of observation, let him alone; let him get well."—(Western Med. Review.)

Reviews.

DIET FOR THE SICK. Contributed by Miss E. Hibbard, Principal of Nurses' Training School, Grace Hospital, Detroit, and Mrs. Emma Drant, Matron of Michigan College of Medicine Hospital, Detroit. To which have been added complete Diet Tables for Various Diseases and Conditions, as given by the highest authorities. Third Edition; Revised and Enlarged. Detroit, Michigan: The Illustrated Medical Journal Co. Price, 25 cents. Postpaid.

This booklet is intended specially for the use of families in which sickness exists. The diet tables for the various chronic diseases are its best features, for in such conditions proper diet is often of as great value as medication. The physician, too, will find much information regarding diet systematically arranged.

MANUAL OF PHYSICAL DIAGNOSIS. For the Use of Students and Physicians. By James Tyson, M.D., Professor of Clinical Medicine in the University of Pennsylvania, etc. Third Edition, Revised and Enlarged, with Colored and other Illustrations. Price, \$1.50 net. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1898.

The merits of Dr. Tyson's Manual of Physical Diagnosis have long been well established. His method of teaching is specially praiseworthy for its clearness and the general conciseness of statements. The third edition of this manual differs from the preceding one mainly in the greater attention given to the examination of blood and of gastric contents. New illustrations have also been added where the need of them seemed indicated.

ESSENTIALS OF MATERIA MEDICA, THERAPEUTICS AND PRESCRIPTION WRITING. Arranged in the Form of questions and answers. Prepared Especially for Students of Medicine, by Henry Morris, M.D., Fellow of the College of Physicians, Philadelphia; Physician to St. Joseph's Hospital, etc., etc. Fifth Edition, Revised and Enlarged. Philadelphia: W. B. Saunders. 1898. Cloth, \$1.00.

While, as a rule, the use of quiz compends by students is to be condemned, yet as the practice seems to be a necessary evil, the wisest course is to get the best of its kind. The Saunders' "blue books" are widely known among students and extensively used, and this volume (No. 7 in the series) is quite up to the grade required.

The classifications are good—although not made in the usual order which would adapt the compend for use with a standard text-book—and would enable the student to get a practical grasp of the subject which under the most favorable circumstances is a difficult one.

The part devoted to prescription-writing sets forth the "essentials" for the accomplishment of

that art quite fully. The work follows the last edition of the U. S. Pharmacopœia and is up to date in every way. H. C. W.

ELEMENTS OF HISTOLOGY. By E. Klein, M.D., F.R.S., Lecturer on General Anatomy and Physiology, and J. S. Edkins, M.A., M.B., Joint Lecturer and Demonstrator of Physiology in the Medical School of St. Bartholomew's Hospital, London. With 206 Illustrations. Revised and Enlarged Edition. Philadelphia and New York: Lea Brothers & Co.

Compared with the last edition this one might be considered entirely new. The remarkable discoveries in the structure of the central nervous system and sense organs made possible by the method of Golgi, have necessitated a practically new chapter on the nervous system. The book, in fact, throughout teems with new additions to the minute structural anatomy of the body. A large number of illustrations has been added, mostly photograms of the author's own specimens, lending additional value to the work. O. C. G.

THE ESSENTIALS OF HISTOLOGY. Descriptive and Practical. For the use of Students. By E. A. Schaefer, LL.D., F.R.S., Jodrell Professor of Physiology in University College, London, etc. New (fifth) Edition. Revised and Enlarged. With 392 Illustrations. Philadelphia and New York: Lea Brothers & Co. 1898.

This book needs no introduction to the student of histology. It meets the requirements of an elementary text-book of histology, at the same time supplying the student with directions for the microscopical examination of the tissues.

For purposes of convenience of study, the book is divided into forty-six lessons, each lesson comprising practical instruction, followed by a description of the tissue or tissues studied. The new nomenclature is used in the study of the nervous system. The typography is good, the illustrations beautiful. It is an admirable text-book and in the hands of the student should prove of value. O. C. G.

DISEASES OF WOMEN: A MANUAL OF GYNECOLOGY. Designed especially for the use of Students and General Practitioners. By Francis H. Davenport, M.D., Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston. New (3d) Revised and Enlarged Edition. In one 12mo. volume of 387 pages, with 155 illustrations. Cloth, \$1.75 net. Lea Brothers & Co., Philadelphia and New York.

The scope of this book has been enlarged in this edition, including surgical as well as non-surgical methods of treatment. It cannot be said that it has improved the book but rather that it is a detriment.

The volume is not intended for specialists nor does it meet the requirements of the student.

The reviewer is forcibly struck by the absence

of a chapter devoted to office antisepsis, an addition that would be very acceptable.

The use of the sound or probe is too often advised for the purpose of arriving at a diagnosis, in spite of the fact, the author himself states, that passing a probe is a "blind procedure at best and not devoid of danger." It would have been better to have confined the book to elementary gynecology, reserving the description of the major surgical operations for books with greater pretensions than this. The scope has been so enlarged that the primary object has been lost sight of, i. e., the production of a manual.

O. C. G.

ATLAS AND ABSTRACT OF THE DISEASES OF THE LARYNX. By Dr. L. Grunwald, of Munich. Authorized Translation from the German. Edited by Chas. P. Grayson, M. D., Lecturer of Laryngology and Rhinology in the University of Pennsylvania, etc., etc. With 107 Colored Figures on 44 Plates. Philadelphia: W. B. Saunders. 1898. Cloth, \$2.50, net.

No series of medical publications which have appeared in late years have proven more popular and useful than the "Medical Hand Atlases." It is a success born of merit. This volume, devoted to disease conditions of the larynx, is worthy of a kind reception. The subject is an important one, and the conditions met with are not always easy of diagnosis by the general practitioner who has not been fortunate enough to have had special training in that direction. This book with its accurately drawn and colored plates, and terse descriptions will supply, in great part, the knowledge obtained in a clinical course in this specialty.

Over one hundred pictures are given, embracing practically the whole subject so far as such diseases are met in a clinical way.

To quote the author, "The illustrations are arranged according to external appearances. . . partly in order to train the eye by comparing conditions similar in appearance, though differing widely in their true nature, and partly to make it easier to find the illustrations which most resemble the particular case to be diagnosed."

H. C. W.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. Playfair, M. D., LL. D., F. R. C. P., Physician Accoucheur to H. I. and R. H. the Duchess of Saxe-Coburg and Gotha (Duchess of Edinburgh), Emeritus Professor of Obstetric Medicine in King's College, etc., etc. Seventh American from the Ninth English Edition, with Plates and 207 Illustrations. Philadelphia and New York: Lea Brothers & Co. 1898.

Perhaps not since the appearance of the American Text Book of Obstetrics, some years ago, has any work on this subject been issued which can

compare for completeness with this work. It is a satisfying book to read and a most instructive one to study. It is needless to mention the divisions and sub-divisions, etc., of such a subject—every physician learned them while still a student struggling with first principles, but the fullness and simplicity of the subject matter are well worth emphasizing. Every subject which properly belongs in such a work is taken up and so conscientiously handled that a reference to the work gives access to a fund of reliable information not available in the usual text-book.

Playfair's Midwifery has been deservedly popular for almost a quarter of a century and this edition of the work will be more than ever in demand. The whole work has been revised in a thorough manner much of it re-written; several illustrations, displaced by the march of science have been changed and many new ones added. In a word—the book is a practical, up to date treatise—the work of a master hand, and worthy the best study of every physician who "dares" practice midwifery.

H. C. W.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA. For Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, etc. With 134 Illustrations. Second Edition. Revised and Enlarged. Price, \$2.50 net. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

No subject in medicine is more interesting than bacteriology, and especially is it true when the subject is presented in the style characteristic of this work. Its scope is well indicated by the author in these terms: "The following pages are intended to convey to the reader a concise account of the technical procedures necessary in the study of bacteriology, a brief description of the life-history of the important pathogenic bacteria, and sufficient description of the pathological lesions accompanying the micro-organismal invasions to give an idea of the origin of symptoms and the causes of death."

The author has aimed to make this, the second edition, more complete as a laboratory guide as well as a text-book, by an increased amount of attention given to the necessary technique in the study of bacteria. Much new matter developed during the past two years since the appearance of the first edition, has been added, in which connection may be mentioned yellow fever, whooping-cough, mumps, and discussions on antiseptics, germicides, etc. No matter in what line of practice this book will prove profitable to all physicians, for a knowledge of bacteriology is of scarcely less importance than a knowledge of anatomy or physiology, in the treatment of disease.

A CLINICAL MANUAL OF SKIN DISEASES; with Special Reference to Diagnosis and Treatment, for the Use of Students and General Practitioners. By W. A. Hardaway, A. M., M. D., Professor of Diseases of the Skin and Syphilis in the Missouri Medical College, St. Louis, etc., etc. Second Edition, Revised and enlarged; Lea Brothers & Co., Philadelphia and New York. 1898.

While, as the title states, this work is a manual, it is very complete and comprehensive. It is divided into two parts: Part I. is devoted to general considerations and observations of symptomatology, etiology, diagnosis, distribution and treatment; and Part II. considers the diseases of the skin; diseases of the appendages, and parasitic diseases. These several divisions are subdivided into classes in a clear and scientific manner. The author quotes freely the opinions and some of the drugs and formulæ advised by the leading dermatologists, and while not always in accordance with, gives them due consideration. The bacteriological factor in skin diseases is treated consistently abreast of the times, as well as the effects of drugs, skiagraphy, etc. The forty-two illustrations are probably as good as can be presented in a manual, uncolored. Pharmaceutical preparations are adhered to, but many of the newer remedies are mentioned. The question of internal medication in skin affections is clearly set forth in a rational manner, and there is a noticeable effort to treat these diseases scientifically rather than empirically. While in many respects an elaborate manual it can be justly recommended, as intended, both for the general medical man and the student.

J. I. J.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City. In Twenty Volumes. Volume XV., "Infectious Diseases." New York: Wililam Wood & Company. 1898.

This volume contains articles on influenza, typhus fever, plague, glanders, anthrax, foot-and-mouth disease, actinomycosis, rabies and pyæmia and septicæmia. That on influenza covers more than one-third of the pages, and is by a master hand, Finkler, of Bonn. Much attention is given to the bacteriology of this disease and to the varied symptomatology. The article on typhus fever is by Eduardo Liceaga, of Mexico, who presents the subject in a practical and clear manner. The chapter on the plague is by the discoverer of its specific germ, S. Kitasato, and A. Nakagawa, both of Japan, than whom no one is in a position to write with better authority. The articles on glanders and anthrax are by Frank G. Billings, formerly professor of pathology in the Chicago Veterinary College. The subject of rabies is presented by N. G. Keirle, of

Baltimore, in a thoroughly scientific and unbiased manner. The article on pyæmia and septicæmia, by J. Mc Fadden Gaston, and J. Mc Fadden Gaston, Jr., is very badly arranged, both as to facts and general presentation. Both terms, at best, are vague and do not indicate first principles nor do the authors make the most of a bad subject. Under the head of "Definition," the statement is made that "while pyæmia is regarded as the result of the absorption of pus into the vascular system, septicæmia implies infection from different sources." The whole article needs revision to place it on a proper scientific footing, as well as to make it more readable.

A TEXT BOOK OF PRACTICAL THERAPEUTICS: WITH ESPECIAL REFERENCE TO THE APPLICATION OF REMEDIAL MEASURES TO DISEASE AND THEIR EMPLOYMENT UPON A RATIONAL BASIS. By Hobart A. Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin and Barton C. Hirst. New (seventh) edition. In one octavo volume of 770 pages. Illustrated. Cloth, \$3.75; leather, \$4.50, net. Philadelphia: Lea Brothers & Co. 1898.

A concise, readable book, notably free of confusing theories with regard to the therapeutics of drugs, attaining the author's object of producing a "Text-Book of Practical Therapeutics." It is divided into four parts. Part I., dealing with General Therapeutical Considerations; Part II., considers Drugs; Part III., Remedial Measures Other than Drugs; Foods for the sick. Part IV. Diseases, Tables of Doses of Medicines, Relative Weights and Measures in the Metric and Apothecaries' Systems, and Indices.

The text conforms not only to the Pharmacopœia of the United States, but also to the British Pharmacopœia of June, 1898.

A number of illustrations inserted to elucidate descriptions of technique are of marked value.

The book is thoroughly up to date, the author regarding antitoxin absolutely reliable in the treatment of diphtheria and thyroid gland a specific in the treatment of myxædema and cretinism. Attention is given to nuclein and to the extract of suprarenal gland, etc., the results obtained from their use hardly warranting any permanent deductions. It is an excellent work, and from its methodical makeup is of value as a ready reference book for the practitioner and a reliable guide to the student.

O. C. G.

MANUAL OF THE DISEASES OF CHILDREN. By John Madison Taylor, A. M., M. D., Professor of Diseases of Children, Philadelphia Polyclinic, etc., and William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Poly-

clinic; etc. Illustrated; P. Blakiston's Sons & Co., 1012 Walnut St., Philadelphia. 1898. Price, \$4.00.

The object of the authors of this new contribution to the subject of children's diseases is to supply the profession with a practical working manual—"a brief but competent guide for the student and practitioner." In order to make the manual represent the best views of the profession on the subject, the works of Holt, Rotch, Musser, Starr, and others have been freely consulted. The book contains something over seven hundred pages, and is divided into twenty chapters. The work of the publishers is up to their usual excellent standard. There are very few typographical errors, and the illustrations are good. The authors, unfortunately, have not been so uniformly careful. Loose expressions are common, and one cannot fail to believe that the preparation of the book has been somewhat hasty. Thus, they speak of the possibility of a "wet-nurse" *infecting* a child with such diseases as syphilis, *rickets*, and tuberculosis; or of giving a drug "in frequent doses every two hours." It is common, too, to find a discussion of treatment under a heading of symptoms or diagnosis. This fact somewhat impairs the value of the book for ready reference.

But these are minor faults and will doubtless be corrected in succeeding editions. Probably a more serious mistake of the authors is the attempt to make a work of this nature cover the rare or theoretical phases of the subject. The book is intended to fill the place of a manual and not a book of reference. Lack of space has so condensed the discussion of rare subjects and conditions that it might have been as well to omit them altogether and use the space for a more extended discussion of feeding, gastro-intestinal, and respiratory diseases.

These subjects have not been neglected, however. And in them the practitioner or student will find the gist of the best opinion of the day. The chapters on Feeding, Nervous Diseases, General Considerations on Physical Development, and Diseases and Conditions Requiring Surgical Proceedings, are fine and make the book a valuable acquisition to the practical library.

B. M. D.

NEW BOOKS.

A Text-Book of Pathology. By Alfred Stengel, M. D., Instructor in Clinical Medicine in the University of Pennsylvania; etc. With 372 Illustrations. Price, Cloth, \$4.00; Half Morocco, \$5.00. Net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

Histology, Normal and Morbid. By Edward K. Dunham, M. D., Professor of General Pathol-

ogy, Bacteriology, and Hygiene, in the University and Bellevue Hospital Medical College, New York. In one octavo volume of 448 pages, with 303 illustrations. Cloth, \$3.25. Net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Materia Medica, Pharmacy, Pharmacology and Therapeutics. By W. Hale White, M. D., F. R. C. P., Physician to, and Lecturer on Pharmacology and Therapeutics at Guys Hospital, London, etc. Edited by Reynold W. Wilcox, M. D., LL. D., Professor of Medicine and Therapeutics at the New York Post-Graduate Medical School, etc. Fourth American Edition. Thoroughly Revised. Price, \$3.00. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1898.

A Primer of Psychology and Mental Disease, for Use in Training schools for Attendants and Nurses and in Medical Classes. By C. B. Burr, M. D., Medical Director of Oak Grove Hospital for Nervous and Mental Diseases, Flint, Mich. Second Edition, Thoroughly Revised. 5½x7¾ inches. Pages ix-116. Extra Cloth, \$1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.

The Medical News Visiting List for 1899. Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The 60-patient Perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, with pocket, pencil and rubber. Seal Grain Leather, \$1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co.

The Physicians' Visiting List (Lindsay & Blakiston's) for 1899. Forty-eighth year of its publication. In Regular, Monthly, and Perpetual Editions. Prices, \$1.00 to \$2.25. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St.

Transactions of the Pathological Society of Philadelphia. Volume XVIII. Containing the Report of the Proceedings of the Society from October, 1895, to June, 1897. Edited by William S. Carter, M. D., Recorder of the Society. Philadelphia: Printed for the Society by Wm. J. Dornan. 1898.

A Pocket Medical Dictionary, Giving the Pronunciation and Definition of the Principal words used in Medicine and the Collateral Sciences. Including very complete tables of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilli and Thermometric Scales, and a dose-list of Drugs and their Preparations, in both the English and Metric Systems of Weights and Measures. By George M. Gould, A. M., M. D., Editor Philadelphia Medical Journal, etc. New edition, entirely re-written and enlarged, including over 21,000 words. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

Practical Ureanalysis and Urinary Diagnosis: A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M. D., LL. D., (Queen's University); Fellow of the

Royal College of Physicians and Surgeons, Kingston; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Fourth, Revised Edition. With Numerous Illustrations, including Photo engravings and Colored Plates. In one Crown Octavo Volume, 365 pages, bound in Extra Cloth, \$2.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill. Tenth Report of the State Board of Health of the State of Maine, for the two years ending December 31, 1897. 1896-1897. Augusta: Kennebec Journal Print. 1898.

Communications.

Washington, D. C., Nov. 17, 1898.

Editor "Pennsylvania Medical Journal."

Dear Doctor:—At a recent meeting of the Joint Committee of the Scientific Societies of this city on Vivisection, the following resolution was adopted: "Resolved, That the Secretary be authorized to call the attention of the prominent medical and scientific journals of the country to the importance of the meeting of the American Humane Society, to be held in this city in December proximo, and to request that editorial notice be taken of the danger that the influence likely to be exerted at that meeting may cause the vivisection bill now pending in the Senate to be called up and passed. I was also directed to ask that you will advise your readers to write to their respective Senators and Representatives in regard to the matter.

Yours truly,
D. S. Lamb, Secretary.

ERROR IN ARTICLE ON ECLAMPSIA.

To the Editor of the Pennsylvania Medical Journal.

Dear Sir:—The October number of the Journal contains an article on Eclampsia, in which statistics are quoted from the Philadelphia Lying-in Hospital, giving the mortality in that disease, for the year 1892, as 100 per cent. I know of no hospital by that name, and if the writer intended the Philadelphia Lying-in Charity, he was in error.

During that year the latter institution had two cases of eclampsia, both of which recovered.

Will you kindly give this communication space in the Journal, as the similarity of the two names might give rise to a wrong impression.

It might be of interest to add that the "Charity," since the year 1892, had eleven cases of eclampsia with two deaths, a mortality of about 18 per cent.

Very respectfully,

Oliver Hopkinson, Jr.,

1606 S. Broad St.,

Philadelphia, Pa.

Nov. 6, 1898.

SELF-BINDERS FOR THE JOURNAL.

The secretary of the state society has received so many inquiries for a self-binder for the Journal that he has had made three hundred Weiss binders at his own expense and risk, which he will sell to members of a county society at cost, plus postage or expressage. The binders are lettered Pennsylvania Medical Journal, Volume 1, or Volume 2, as may be ordered, and considering cost, looks, convenience and durability are the most satisfactory self-binder examined. Each number of the Journal can be easily inserted as received thus making a temporary holder for the Journal until the twelve numbers have been put in place when it is practically a well bound book looking as well on the shelf as an ordinary medical work.

Single binders will be sent by mail or express for forty cents. Members ordering in a club to one address can receive them by express, prepaid, at the following rates: Two binders for seventy cents; three for \$1.00; four for \$1.25; five for \$1.50; six for \$1.75; seven for \$2.00; and ten or more at twenty-five cents each. In ordering state whether binder is wanted for Vol. 1 or Vol. 2. Money should accompany each order as accounts cannot be opened.

C. L. Stevens, Athens, Pa.

POSTPONEMENT OF THE THIRD PAN-AMERICAN MEDICAL CONGRESS.

International Executive Commission of the Pan-American Medical Congress. Office of the Secretary.

Cincinnati, Nov. 5, 1898.

My Dear Sir:—I have the honor to announce that in April, 1898, I received from Dr. Jose Manuel de los Rios, Chairman of the Committee on Organization of the III Pan-American Medical Congress, a request that, in consequence of the then existing rebellion in Venezuela, no definite arrangements be made at that time relative to the meeting of the Congress previously appointed to be held in Caracas in December, 1899.

The following communication relative to the same subject is just at hand:

Caracas, Sept. 25, 1898.

Dr. Charles A. L. Reed, Secretary of the International Executive Commission, Cincinnati, Ohio.

Dear Sir:—After having sent my communication dated April last, I find it to be my duty to notify you, that, although the considerations pointed out in it have already ended, our country has been scourged by small-pox which has taken up all our physicians' activities and time, depriving them of going into scientific works. And, as that state of mind of our people and government after such calamities as war and epidemic, would greatly interfere with the good success of our

next meeting, I beg leave to tell you, in order you will convey it to the International Executive Committee, that our Government and this Commission would be grateful to have the meeting which was to take place in Caracas in December, 1899, adjourned for one year later. I am, dear Doctor,

Yours respectfully,

THE PRESIDENT.

(Signed) Dr. Jose Manuel de los Rios.

In accordance with the request of the Government of Venezuela, and of the Committee on Organization, the III Pan-American Medical Congress is hereby postponed to meet in Caracas in December, 1900.

For the International Executive Commission.

Charles A. L. Reed, Secretary.

PENNSYLVANIA PHYSICIANS CLASSIFIED.

(SEE EDITORIAL.)

ADAMS COUNTY:

"Regulars".....	37
Homeopathists	4
"Failed to report".....	11

Total practitioners	52
Members in a County Society.....	3

ALLEGHENY COUNTY:

"Regulars".....	799
Homeopathists	100
Eclectics	14
Physio-Medicalist	1
"Failed to report".....	85

Total practitioners	999
Members in a County Society	345

ARMSTRONG COUNTY:

"Regulars".....	57
Homeopathists	3
"Failed to report".....	6

Total practitioners	66
Members in a County Society.....	30

BEAVER COUNTY:

"Regulars".....	53
Homeopathists	11
"Failed to report".....	11

Total practitioners	75
Members in a County Society.....	33

BEDFORD COUNTY:

"Regulars".....	35
Homeopathists	2
Physio-Medicalist.....	1
"Failed to report".....	9

Total practitioners	47
Members in a County Society.....	16

BERKS COUNTY:

"Regulars".....	194
Homeopathists	30
Eclectics	2
"Failed to report".....	16

Total practitioners	242
Members in a County Society.....	77

BLAIR COUNTY:

"Regulars".....	97
Homeopathists	12
Eclectics	2

"Failed to report".....	11
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Total practitioners.....	122
Members in a County Society.....	55

BRADFORD COUNTY:

"Regulars".....	72
Homeopathists	15
Eclectics	7
"Failed to report".....	10

Total practitioners	104
Members in a County Society.....	32

BUCKS COUNTY:

"Regulars".....	82
Homeopathists	12
Physio-Medicalist	1
"Failed to report".....	9

Total practitioners	104
Members in a County Society.....	53

BUTLER COUNTY:

"Regulars".....	70
Homeopathists	5
"Failed to report".....	9

Total practitioners.....	84
Members in a County Society.....	34

CAMBRIA COUNTY:

"Regulars".....	67
Homeopathists	3
Eclectics	9
"Failed to report".....	10

Total practitioners.....	89
Members in a County Society.....	49

CAMERON COUNTY:

"Regulars".....	7
Homeopathist	1

Total practitioners	8
Members in a County Society.....	4

CARBON COUNTY:

"Regulars".....	36
Homeopathists	4
"Failed to report".....	4

Total practitioners.....	44
Members in a County Society.....	21

CENTER COUNTY:

"Regulars".....	40
Homeopathists	4
Eclectics.....	3
"Failed to report".....	9

Total practitioners.....	56
Members in a County Society.....	24

CHESTER COUNTY:

"Regulars".....	104
Homeopathists	20
"Failed to report".....	30

Total practitioners	154
Members in a County Society.....	57

CLARION COUNTY:

"Regulars".....	39
Eclectics.....	4
"Failed to report".....	5

Total practitioners.....	49
Members in a County Society.....	30

CLEARFIELD COUNTY:

"Regulars".....	65
Homeopathsists	2
Eclectics	4
"Failed to report".....	8
Total practitioners.....	79
Members in a County Society.....	40

CLINTON COUNTY:

"Regulars".....	27
Homeopathsists	4
"Failed to report".....	2
Total practitioners.....	33
Members in a County Society.....	22

COLUMBIA COUNTY:

"Regulars".....	45
Homeopathsists	5
"Failed to report".....	5
Total practitioners.....	55
Members in a County Society.....	29

CRAWFORD COUNTY:

"Regulars".....	69
Homeopathsists	17
Eclectics.....	9
"Failed to report".....	18
Total practitioners.....	113
Members in County Societies.....	28

CUMBERLAND COUNTY:

"Regulars".....	65
Homeopathsists	8
Eclectic.....	1
"Failed to report".....	11
Total practitioners	85
Members in a County Society.....	29

DAUPHIN COUNTY:

"Regulars".....	146
Homeopathsists	16
Eclectics	3
"Failed to report".....	9
Total practitioners.....	174
Members in a County Society.....	58

DELAWARE COUNTY:

"Regulars".....	77
Homeopathsists	23
"Failed to report".....	11
Total practitioners.....	111
Members in a County Society.....	47

ELK COUNTY:

"Regulars".....	19
Eclectics	2
"Failed to report".....	1
Total practitioners.....	22
Members in a County Society.....	17

ERIE COUNTY:

"Regulars".....	98
Homeopathsists	21
Eclectics	5
"Failed to report".....	8
Total practitioners	132
Members in a County Society.....	47

FAYETTE COUNTY:

"Regulars".....	69
Homeopathsists	2
Eclectic.....	1
Physio-Medicalists.....	4
"Failed to report".....	19
Total practitioners.....	95
Members in a County Society.....	23

FOREST COUNTY:

"Regulars".....	8
Eclectic.....	1
"Failed to report".....	1
Total practitioners	10
Members in a County Society.....	4

FRANKLIN COUNTY:

"Regulars".....	55
Homeopathsists	6
"Failed to report".....	8
Total practitioners.....	69
Members in a County Society.....	42

FULTON COUNTY:

"Regulars".....	9
"Failed to report".....	3
Total practitioners.....	12
Members in a County Society.....	3

GREENE COUNTY:

"Regulars".....	34
Homeopathsists	2
"Failed to report".....	15
Total practitioners	51
Members in a County Society.....	15

HUNTINGDON COUNTY:

"Regulars".....	34
Homeopathsists	1
"Failed to report".....	7
Total practitioners	42
Members in a County Society.....	21

INDIANA COUNTY:

"Regulars".....	53
Homeopathsists	2
"Failed to report".....	6
Total practitioners.....	61
Members in a County Society.....	27

JEFFERSON COUNTY:

"Regulars".....	45
Homeopathsists	1
"Failed to report".....	10
Total practitioners.....	56
Members in a County Society.....	33

JUNIATA COUNTY:

"Regulars".....	15
Homeopathist	1
"Failed to report".....	4
Total practitioners	20
Members in a County Society.....	14

LACKAWANNA COUNTY:

"Regulars".....	172
Homeopathsists.....	22

Eclectics	2	MIFFLIN COUNTY:	
Botanics	2	"Regulars"	23
"Failed to report"	11	Homeopathsists	3
		"Failed to report"	2
Total practitioners	209	Total practitioners	28
Members in a County Society	77	Members in a County Society	12
LANCASTER COUNTY:		MONROE COUNTY:	
"Regulars"	183	"Regulars"	25
Homeopathsists	16	Homeopathsists	1
Eclectics	4	"Failed to report"	5
"Failed to report"	19		
Total practitioners	222	Total practitioners	31
Members in a County Society	113	Member in a County Society	1
LAWRENCE COUNTY:		MONTGOMERY COUNTY:	
"Regulars"	56	"Regulars"	147
Homeopathsists	13	Homeopathsists	22
Eclectics	2	Eclectic	1
"Failed to report"	8	"Failed to report"	21
Total practitioners	79	Total practitioners	191
Members in a County Society	24	Members in a County Society	52
LEBANON COUNTY:		MONTOUR COUNTY:	
"Regulars"	54	"Regulars"	18
Homeopathsists	11	Homeopathist	1
Physio-Medicalist	1	"Failed to report"	1
"Failed to report"	11		
Total practitioners	77	Total practitioners	20
Members in a County Society	18	Members in a County Society	14
LEHIGH COUNTY:		NORTHAMPTON COUNTY:	
"Regulars"	101	"Regulars"	120
Homeopathsists	20	Homeopathsists	12
"Failed to report"	7	Eclectics	4
Total practitioners	128	"Failed to report"	5
Members in a County Society	48	Total practitioners	150
LUZERNE COUNTY:		Members in a County Society	63
"Regulars"	220	NORTHUMBERLAND COUNTY:	
Homeopathsists	21	"Regulars"	80
Eclectics	3	Homeopathsists	10
Oculist	1	Eclectic	1
"Failed to report"	34	"Failed to report"	13
Total practitioners	279	Total practitioners	104
Members in a County Society	76	Members in a County Society	40
LYCOMING COUNTY:		PERRY COUNTY:	
"Regulars"	88	"Regulars"	31
Homeopathsists	9	Homeopathist	1
Eclectics	2	Eclectic	1
"Failed to report"	4	"Failed to report"	5
Total practitioners	103	Total practitioners	38
Members in a County Society	67	Members in a County Society	24
McKEAN COUNTY:		PHILADELPHIA COUNTY:	
"Regulars"	53	"Regulars"	2,081
Homeopathsists	4	Homeopathsists	430
Eclectic	1	Eclectics	29
"Failed to report"	9	Botanics	3
Total practitioners	67	Electropathsists	15
Members in a County Society	38	Magnetic	1
MERCER COUNTY:		Hygeio	1
"Regulars"	53	Baunscheidt	1
Homeopathsists	9	"Failed to report"	25
Eclectics	4		
"Failed to report"	19	Total practitioners	2,586
Total practitioners	85	Members in a County Society	737
Members in a County Society	33		

PIKE COUNTY:

"Regulars".....	9
"Failed to report".....	2

Total practitioners.....	11
Members in a County Society.....	0

POTTER COUNTY:

"Regulars".....	23
Homeopathsists.....	3
Eclectic.....	1
Physio-Medicalist.....	1
"Failed to report".....	9

Total practitioners.....	37
Members in a County Society.....	13

SCHUYLKILL COUNTY:

"Regulars".....	128
Homeopathsists.....	15
"Failed to report".....	17

Total practitioners.....	160
Members in a County Society.....	70

SNYDER COUNTY:

"Regulars".....	27
"Failed to report".....	2

Total practitioners.....	29
Members in a County Society.....	12

SOMERSET COUNTY:

"Regulars".....	37
Eclectics.....	3
"Failed to report".....	10

Total practitioners.....	50
Members in a County Society.....	23

SULLIVAN COUNTY:

"Regulars".....	10
Eclectics.....	2
"Failed to report".....	4

Total practitioners.....	16
Members in a County Society.....	7

SUSQUEHANNA COUNTY:

"Regulars".....	46
Homeopathsists.....	5
Eclectics.....	2
"Failed to report".....	6

Total practitioners.....	59
Members in a County Society.....	28

TIOGA COUNTY:

"Regulars".....	56
Homeopathsists.....	5
"Failed to report".....	12

Total practitioners.....	73
Members in a County Society.....	29

UNION COUNTY:

"Regulars".....	21
Homeopathsists.....	3
"Failed to report".....	3

Total practitioners.....	27
Members in a County Society.....	7

VENANGO COUNTY:

"Regulars".....	43
Homeopathsists.....	10

Eclectics.....	5
"Failed to report".....	11

Total practitioners.....	69
Members in a County Society.....	20

WARREN COUNTY:

"Regulars".....	44
Homeopathsists.....	4
Eclectics.....	3
"Failed to report".....	9

Total practitioners.....	60
Members in a County Society.....	32

WASHINGTON COUNTY:

"Regulars".....	123
Homeopathsists.....	6
Eclectics.....	7
"Failed to report".....	15

Total practitioners.....	151
Members in a County Society.....	44

WAYNE COUNTY:

"Regulars".....	21
Homeopathsist.....	1
"Failed to report".....	5

Total practitioners.....	27
Member in a County Society.....	1

WESTMORELAND COUNTY:

"Regulars".....	135
Homeopathsists.....	4
Eclectics.....	6
Physio-Medicalist.....	1
"Failed to report".....	32

Total practitioners.....	178
Members in a County Society.....	63

WYOMING COUNTY:

"Regulars".....	20
Eclectics.....	3
"Failed to report".....	2

Total practitioners.....	25
Members in a County Society.....	2

YORK COUNTY:

"Regulars".....	123
Homeopathsists.....	19
Eclectics.....	4
"Failed to report".....	12

Total practitioners.....	158
Members in a County Society.....	74

SUMMARY:

"Regulars".....	7,102
Homeopathsists.....	1,017
Eclectics.....	157
Electropathsists.....	15
Physio-Medicalists.....	10
Botanics.....	5
Magnetic.....	1
Hygeio.....	1
Oculist.....	1
Baunscheidt.....	1
"Failed to report".....	732

Total in the State.....	9,042
Members of County Societies.....	3,334

C. L. STEVENS,

Chairman Com. on Increase of Membership, Etc.

The Pennsylvania Medical Journal,

The Official Organ of the Medical Society of the State of Pennsylvania.

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Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

Original Articles.

SUBCUTANEOUS NAILING IN FRACTURES WITH UNUSUAL TENDENCY TO DIS-PLACEMENT.

BY JOHN B. ROBERTS, M. D., OF PHILADELPHIA.

[Read at the the meeting of the Lehigh Valley Medical Association, uly 28, 1898.]

The safety with which fractures may be explored by aseptic incisions and the success of direct fixation, obtained by mechanical devices, have begun a revolution in the treatment of complicated injuries of bone.

My attention has recently been directed, as the result of reading, experience and some experimental work, to the value of fixation of closed (the so-called simple) fractures by subcutaneous nailing. All surgeons use at times wires, screws, pegs or nails to hold the fragments together

after adjustment of an open (the so-called compound) fracture or the operation of resection.

It is now pretty well conceded that it is entirely proper to lay open the soft parts and accurately examine with the fingers and eyes an obscure fracture, which is difficult to reduce or to keep reduced, provided that the surgeon is familiar with the exact details of truly aseptic surgery, and knows how to promptly meet the first evidences of septic contamination. I believe that it is similarly proper for a surgeon with the same qualifications and a sufficient knowledge of regional anatomy to deliberately nail together the fragments of a broken bone with an aseptic wire nail driven through the unbroken skin, as a tack or nail is driven through a carpet into the boards of a floor.

This operation will naturally be found most serviceable in oblique fractures of superficial bones like the tibia, and in

fractures without comminution. It will be adopted with less safety in fractures involving joints, because of the greater risk of faulty asepsis; but even there a skillful and conscientious surgeon with a rigidly aseptic technic will find no reason to reject the method. The careless surgeon, who calls himself an aseptic or antiseptic operator, and continually breaks the rules of aseptic surgery, has no regal right to operate in serious cases; and must be considered as debarred from operative undertakings of this kind.

In comminuted fractures it may be impossible to employ satisfactorily subcutaneous nailing, because the exact reposition of the pieces is impossible through the overlying swollen tissues, and because the avoidance of nerves and blood vessels may be difficult, when driving the two or three nails which will be needed to fix the fragments firmly in place. The same difficulty obtains, however, in such instances, in successful coaptation by manipulation to be followed by the use of ordinary splints. In these cases an exploratory incision will disclose the nature and extent of the fracture lines and permit the nails to be driven with accuracy. They should be so used, of course, only when their use is shown to be better than indirect fixation by splints applied externally.

Ordinary wire nails and a hammer are the only instruments needed in fixing fragments by the method here advocated. As wire nails are not tempered and often are not pointed, and as the exterior of the bone consists of compact tissue, it is rather better to have tempered steel nails or drills of various lengths made for the purpose; but this refinement is not at all necessary. Surgical needles if long enough will answer the purpose. I have had made slender steel nails of different lengths, with drill-shaped points and long square heads. These fit into a common handle which is used while forcing the nail through the soft tissues and compact outer layer of bone.

As soon as the hard bone has been perforated the handle is detached and the nail driven into the fragments, held in correct position by the fingers; and the long head allowed to protrude. At the end of two, three or four weeks the nail is seized by the head with a pair of forceps and withdrawn. During the time the nail is in position the small wound of entrance is dressed with aseptic or antiseptic gauze; and a slight additional support is given to the broken bone by any form of dressing which will prevent strain at the seat of fracture. A very light metal, wooden, paper or gypsum splint may be employed for this purpose.

This manner of dealing with fractures is by no means recommended as a routine procedure; but it is a legitimate and valuable adjunct in dealing with broken bones with an unusual tendency to displacement; whether the displacement be due to great obliquity of the line of fracture or to exceptional muscular contraction. Its advantages are simplicity of technic, effectiveness in meeting the mechanical requirements, and the ease with which the instruments required can be universally obtained. The only objection to the method in cases requiring such active treatment is the necessity for absolute aseptic materials and the observance on the surgeon's part of the same conscientious care, as to sterility of hands and skin, as is required in a successful intra-abdominal operation. Subcutaneous nailing will probably be found very valuable in certain dislocations, such as dislocations of the clavicle from the sternum, and the scapula from the clavicle.

ACUTE PNEUMONIA.

BY THOMAS PURCELL, M. D., OF ERIE.

[Read before the Erie County Medical Society, July, 1898.]

It is the purpose of this paper to discuss acute pneumonia of adults as met with in general practice together with its compli-

cations, considering especially practical therapeutics.

The old conception of pneumonia—that it is an inflammation of the lung—has within a few years been displaced by the belief that it is a general disease of which the inflammation of the lung is the characteristic lesion. Exposure to cold was considered the principal cause. The fact that two-thirds of the cases occurred in spring and winter, together with the very great similarity of the earliest manifestations of the disease seem to have been mainly instrumental in establishing this belief. In statistics presented before the British Medical Association it has been shown that the death rate from zymotic diseases has generally much decreased, but that pneumonia remains unchanged and of itself is responsible for one-third of the death rate occurring in adults.

Allow me to describe a typical case which the patient and family will consider a mere cold. One previously in good health, with or without history of exposure, will appear with anxious expression, cough constantly; the cheeks will acquire a bright and dusky flush; there will be marked irritability of the chest muscles, hot dry skin (more rarely moist), rapid pulse, pain on the affected side, sputum rusty and sticky.

Physical examination will show increased vocal frementus, crepitant rales, and, later impaired resonance with bronchial breathing. In a few days the rales disappear and consolidation follows. From the third to the ninth day the rales return, becoming more and more loose and moist, resolution resulting in an almost normal condition of lung.

Danger signals in these cases are, delirium, feeble pulse and heart sounds, high fever (104 or more), severe pain over lung involved and rapid breathing. Physical signs becoming more marked and especially those dependent on insufficient aëration of blood—nervous exhaustion, heart failure, purulent sputum, etc. It should be

remembered that in old persons the physical signs are least constant.

Complications.—At any time there may develop pleurisy with effusion or empyæma, the temperature rising, and physical signs of pleurisy following. Also catarrhal pneumonia, involving the larger bronchi of both lungs, the patient expectorating large quantities of mucus mixed with blood.

Acute pericarditis is one of the serious complications to be always remembered. There may be nothing to call attention to the condition of the heart. Again, there is often severe local pain, hurried respiration and cyanosis. A previously existing chronic endocarditis adds much to the danger of pneumonia. Acute meningitis is an alarming complication. Jaundice is seen in both mild and severe types. Acute degeneration of the kidneys often occurs and those suffering from chronic nephritis are unfavorable subjects. Diabetes is a very severe complication. Persons of rheumatic diathesis are unfavorable subjects.

Treatment.—No disease more frequently calls for active interference. Cardiac dilatation, if noted early, may be remedied by the use of strychnine, but twelve hours' delay may defy all efforts. Twenty-four hours of continuous high tension may fatally exhaust a struggling heart which would resist half that time. Careful and repeated physical examinations should be made, and the result accurately recorded for estimation of future progress in the disease. The best hygienic surroundings should prevail. Rest in bed is imperative with every source of irritation and annoyance removed. The diet should be light and nutritious. Food should be given at stated intervals, but milk and liquid foods should not be used to allay thirst. The skin should be kept moist and proper excretion zealously promoted as in this way much toxin is eliminated.

Pleurisy is one of the most frequent complications and should be energetically combatted. Aconite is most serviceable in

speedily relieving pain due to inflammation. It moistens the skin and induces sleep. Its depressing heart action should not be forgotten. Morphine is the only valuable sedative, and may be given early in pleurisy, but is dangerous later, and is especially so in adults.

The cold pack is perhaps the best for hyperpyrexia. Cold sponging is a pleasant way of applying cold, and is more useful as a sedative than antipyretics. Irritation of the brain from virulence of the poison often produces insomnia with much restlessness. The cold pack and often the ice pack are here of much value. Morphine is often necessary, but should be resorted to very reluctantly, and always with full doses of strychnine. It is always dangerous, and especially so in chronic renal disease. Alcohol in this condition should be given freely; it aids the action of both morphine and strychnine, and is of itself hypnotic in pneumonia.

Heart failure in all but mild cases demands careful consideration. Strophanthus and digitalis cannot be depended upon. Quinine is sometimes beneficial. Also ammonium carbonate and strychnine. Alcohol to those accustomed to it should be used liberally, as much as ten to fifteen ounces a day. One-third of the alcohol should be given during the day, two-thirds from 8 P. M. to 8 A. M. If the patient be an abstainer three to six ounces will be sufficient. In recent literature the cold bath is given preference for hyperpyrexia, but this seems to me impracticable in private practice.

A MODIFICATION OF THE OPERATION—BY DOUBLE-SPLICE AND WIRED CLAMP—FOR UNUNITED FRACTURE.

BY F. LEMOYNE, M. D., OF PITTSBURG.

In April, 1879, I published in the *American Journal of Medical Sciences* a report of a case of ununited fracture of the hume-

rus, and described an operation presenting some original features.

The operation was very successful in that and two other cases of the humerus in which it was subsequently practiced by my associates of the Western Pennsylvania Hospital, and another of my own involving the femur. They were all upon inmates of the hospital, and several of them had been subjected to other operations before their admission, which had failed.

The operation consisted in the coaptation of the fragments in ununited fracture of a bone, by the mechanical device known as double-splice, or fitting a wedge into a V and retaining them at that position by a clamp made of a piece of stout iron wire about two inches and a half long for the adult bone, having three-sixteenths of an inch of each extremity bent at a right angle to be inserted into accurately fitting drill holes, one on each side of, and equally distant from the splice. The clamp was retained in position by a silver wire near each end encircling it and the bone. In both of my cases the clamp and retaining wires produced irritation and were removed after firm union of the bones had taken place. All of the cases in which I have known of this operation being practiced were fractures of single bones.

In August, 1896, I was requested by Dr. Thos. McCann to assist him in the treatment, by this operation, of a case of ununited fracture of the humerus.

At my suggestion, the following modifications were adopted: Instead of surrounding the entire bone and clamp by the retaining wires, the bone was drilled for each wire at about one-third of its circumference and the wires passed through those drill-holes and twisted down on the clamp, only including one-third of the bone and avoiding the unnecessary constriction of tissue which was liable to occur in the method originally recommended.

Dr. Thos. McCann reported in regard to this case on November 17th, 1898, as fol-

lows: "The case we operated upon by your improved method still wears the clamp and wire. The wound united by first intention and the clamp never caused any trouble. The result has been perfect in every way. You will recall that the musculo-spiral nerve was entangled in the callus, and occasioned wrist drop. This has also been perfect in recovery. I teach the operation to the class every year."

The double-splice may be made very shallow, producing but little shortening. A single splice secured by transfixing wires, would be a much simpler operation, but sufficient firmness could not be obtained without considerable shortening. The weight and strength of the clamp and retaining wires should be such as to secure firmness of apposition, and immobility should be promoted by ample exterior support.

The result was very satisfactory in the case in which this modification was employed. I believe it to be an improvement and worthy of practical consideration.

Secondary Department of Official Transactions.

[Addresses and papers read at the meeting of the Medical Society of the State of Pennsylvania, at Lancaster, May 18 and 19, 1898, already published elsewhere.]

ADDRESS IN OBSTETRICS

By S. S. TOWLER, M. D., OF MARIONVILLE.

This address is from the standpoint of the general practitioner and the commonplace; from the standpoint of the general practitioner, not in that sense of antagonism to the specialist that is becoming an unfortunate feature in the profession—a feature that bodes no good and is to be deplored—but from the standpoint that the general practitioner is, notwithstanding numerous articles on his "decadence," and his "passing," yet the most important, as he is the most numerous personality in the science of medicine. From

the very nature and complexity of the human organism, it will be a "sorry day" for the unfortunate sick, when there is an end to that individual known as the "Family Doctor." There need be no fear, however, of this, as long as the profession has the sound sense to recognize, as they now do, that the best specialists are those trained as general practitioners. In using the word "specialist" throughout this paper, it is to be understood as referring to the specialist concerned in this subject—none other.

The line between obstetrical practice and gynecology, is so narrow, that, for the purposes of this paper it is assumed that one includes the other. The specialist should be considered as the ally, friend, and help-mate of the general practitioner. Any of the brethren who are not willing to act that part should be promptly dropped for one who will. The responsibility of the general practitioner does not end with the calling in of the specialist, and should not so end. The patient should still be his, and all his rights ought to be carefully considered and justly observed. There are specialists who are the soul of honor, who respect the trials, difficulties, and position of the "Family Doctor"; men who come to his side anxious both for him and his patient; men who are willing to share with him the unfortunate issue, if so it be, as well as the success, if such be their happy lot. It is a pleasure to testify here and now, that we do not have to go beyond the confines of this commonwealth to find them, nor outside of the membership of this society. On the other hand, there is a class practicing gynecology, that general practitioners hate and ought to hate. It is that class whose clientage are brought in by more or less sly advertising—by personal friends acting the part of runners, and meddlesome old women. This kind pose as a sort of "great wonder," and, after exhibiting office specimens, make a variously executed examination, that fairly stuns the patient. After that comes the cut

at the general practitioner. The woman may have had anywhere from one to ten children, but all the same, he calmly and impressively says, "I am sorry to say, Madam, that the physician who attended you last in confinement, was ignorant of his duties. You have a bad, a very bad, terribly bad, rupture of the cervix."—(Rising inflection.)

The chances are, ten to one, that the tear is an insignificant one, (but the fee a large one), and that the little tear occurred in the first confinement, and not the last. His fault is not in saying there is a tear, if that is the condition, but in emphasizing it, for his own benefit, and the placing of a responsibility beyond his knowledge.

Yes, we hate that fellow with a vigor born of righteous indignation. Yet it is but fair to add, that he would have made just as contemptible a general practitioner as he does a specialist. There is, however, a fair and honest field of opposition to any specialist, that the general practitioner can and should enter into and enjoy. That is that sort of opposition that will, so far as in him lies, do his own work so well, that the specialist will have no case through any fault of his.

This brings us to the subject from the standpoint of the commonplace. The great majority of deliveries are commonplace. They do fairly well with only neighborly help. This is a great comfort to the general practitioner who consoles himself, on refusing to go on a charity call, with the thought that "she will get along all right anyhow." At the same time, we all know, that it is a sin and shame for people of means, to be running any risk at such a time. We like to warn them beforehand, to take no chances on old women and good luck. It may be the proper professional thing, to vigorously damn the successors of "Sairy Gamp" and "Betsy Prig," on account of their ignorance, dirtiness, and presumption; but it is just as well to remember that precisely the same results follow

the carelessness and neglect of the educated physician. It is from this carelessness and neglect of the commonplace, that the vast majority of calamities arise in obstetrical practice. One of the unfortunate features is, that so many cases come to us without any previous knowledge of their condition. The pregnant woman should be taught to report to the family physician, as soon as she knows she is pregnant. It is not necessary for me to explain here in detail how much suffering would be saved and how many sad results would never occur, if this practice was more common. The diagnosis of pregnancy is by no means always easy or certain. When there is a doubt, and the patient begins to show decline, prompt means should be taken to ascertain the actual condition. It may be tumor, extra-uterine pregnancy, cancer, tubercular peritonitis, hydatids, or some other abnormal and dangerous condition. It is due to the patient to find out. The way to find out is to send for the most competent medical man we know. If the patient is poor, it is proper to ask the poor authorities of town or county to assist in either bringing in the needed assistance or in taking the patient to that assistance. There is neither right nor justice is refusing fair compensation to the medical attendant, while at the same time the butcher and baker are getting their pay. If the family is able to pay some compensation it ought to be required, but all of it ought not to go to the specialist. If he is the right kind of a man he will not expect it. An excellent plan in the poorer class of cases is to take advantage of the offer of clinical lectures offered through a committee of this society, and when you get your expert, rush in your doubtful cases. You will find more difficulty on the part of the patients than you will find kicking on the part of the specialist.

If circumstances permit, if the patient is close by and the surroundings suitable, the

patient should, if an operation be needed, be operated on at home. The general practitioner who is not competent to take care of a patient after operation and instructions by his specialist, ought to, at once, go and learn. If the circumstances are not in line with success, than she should be removed, preferably to a well-conducted hospital. There are cases fortunately very rarely, when all the chance possible demands immediate operation. Expert skill may be at too great a distance to be secured in time. Under these circumstances the nearest and most competent surgeon should be called in, and, with the consent of the family, the operation performed. She is entitled to all the chance that available skill can give her. To this end, we should use all the means in our power to qualify ourselves for just such emergencies. Yet always, when experienced skill can be obtained, it is imperative to obtain it. Skillful rapidity of operation may be the only salvation, and this cannot be obtained by the occasional operator. In the ordinary cases, too often, the vomiting of pregnancy is treated with various medicines, until the patient is losing strength mentally and physically. As soon as it is evident that relief is not being afforded, applications, preferably of tincture of iodine, should be applied directly to the os. Lightly tamponing the cervix with a strip of borated gauze is often effective when applications fail. Whatever means are used, if evidence of improvement is not soon manifest, new measures, carefully studied out, should be promptly used. Yet all the time, it is not to be forgotten, that not all the nausea, perhaps none of it, is due to pregnancy, even though pregnancy exists. There are other organs in a woman besides the uterus, an exceedingly commonplace fact, too often forgotten or ignored. When all reasonable effort to control the vomiting has failed, it becomes the serious question of determining whether the attempt is to be made by

feeding, stimulants, etc., to carry the woman to term or near term, or induce labor early. Is it not sound sense and good judgment to take the side of least risk to the patient? The time of least risk to her is certainly *not* when she has become a starved wreck of her former self. Yet we are advised, time and again, to carry her along as far as possible toward term in hope of a change. That line of "possible" is a danger line easily passed even by a largely experienced but hopeful practitioner. When induced labor is determined upon, and this should be settled in consultation with the nearest, most competent medical man or woman, the condition of the patient must be considered as well as the method. In most cases, a firm tampon of gauze in the cervix, followed by frequent douches of warm sterile water will be all that is needed. A rubber bed pan, with outflow-tube and a fountain syringe holding two or three quarts, make the procedure neither uncomfortable or exhausting to the patient. Glycerine, injected into the cervix, the os covered with thin rubber protective to prevent immediate outflow, followed by a snug packing of the vaginal vault, with plain or borated gauze, is perhaps the next least dangerous method.

Whatever procedure is followed, thorough cleanliness and complete emptying of the uterus must be constantly kept in view. Throughout the entire term of pregnancy, and especially in the last third, particular attention is to be paid to kidneys, bladder, and bowels. It requires frequent inquiries and imperative commands, on the part of the medical attendant, to obtain anything like proper attention to the bowels of either pregnant or non-pregnant woman. In the last month of pregnancy it is a mistake to urge the woman to exercise freely. It is a period that demands rest, quiet movements, light meals of nourishing food, and abundant sleep. When time is up, and the practitioner is called, he should make it his special business to look thoroughly into the

surroundings. The bed is to be made as clean as the possessions of the family will permit. The idea that "any old thing" will do until after completion of labor is a bad mistake, and yet a more common one than some suppose. The bed should be firm and the springs taken out. How much this simple procedure helps both patient and doctor, only those who have tried it know. A little ingenuity puts the springs back again with little disturbance to the woman.

As to the person of the patient, we have been for some time past regaled with what the writers call "the obstetric toilet." With some of these advisers the woman is to be put through a series of washings, scrubbing, douches and packings, that puts to shame the necessary procedure of the rigid skillful gynecologist. On the other hand, we are told all this is unnecessary. Both are wrong. In normal cases a good warm bath, and a vaginal douche of warm sterile water, is all that is necessary. It is never to be forgotten that the use of any solution that dries up, or tends to dry up, a natural healthy secretion, is wrong. Diseased conditions are to be met promptly, but we are not to use drugs when drugs are not called for. The cleanliness of the practitioner is of as much or more importance, than that of the patient. In the majority of cases infection is from without. If the attendant *knows* that there is nothing septic about him, then a good wash, of arms and hands, with hot water and good laundry soap, with proper attention to the nails, is all that is needed. There must be no doubt, however, of the prior cleanliness. If there is any doubt, then nothing short of thorough disinfection is to be used before any examination is made.

It is not so long since the writer knew of a case, in which the practitioner went directly from incising a septic abscess to attend a primipara. The woman shortly after died from infection. Ignorance, some would

say. Yet this man hangs on his office wall, the diplomas of two of the nation's best medical universities. No, not ignorance, gentlemen, but, unquestionably, criminal negligence. In view of the records made in maternities, where cleanliness all round is the rule, the continuance of puerperal fevers, of more or less grave character, in general practice, must be attributed more to carelessness than surroundings. Except in the cases of the degraded and very poor, a fair amount of cleanliness may be secured by careful attention and persistence. But just so long as one hugs to himself the hope and chance, that each patient will get along as well as the majority do, will he take risks that, sooner or later, will land him and his patient in trouble.

When the examination is made, it is to be made thoroughly. We are not to wait until the head or other presenting part is jammed and wedged in the pelvis, before we know that version is necessary; or a loop of six inches, more or less, is felt externally, before we find we have a prolapsed cord; or half a dozen other abnormal conditions exist. Because pains are feeble, or "just a few in the back," is no excuse for not promptly ascertaining the exact condition, as far as possible, at the first examination. When forceps are to be used, has taken up much time and ink, and yet the squabble in some journals goes on. On the one side, we have the man who would only wait an hour or two, and then apply. We have another set whose only conception of instrumental delivery is to hitch on and drag out. We have the solemn old gentleman, who poses as better than all of us, because he has practiced forty years and never used them. Thank Heaven! we have also, those doctors who are not only the salt of the profession, but almost "the salt of the earth." Doctors whose guide in this, as in all else they do, is sound common sense.

It is not the purpose of this paper to go into many details of any feature presented.

It is one of the purposes, however, to point out that in the careless or reckless use of forceps, we furnish the gynecologist with many a needless case. In too many instances, the practitioner is in too much of a hurry. In these days of many doctors and much competition, there arises the fear that during an absence, some patient may get into a rival's office, and a quarter, more or less, be lost forever. So in the haste to be wealthy, one ceases to be wise. If a big dose of ergot does not hurry up the affair, on goes a pair of instruments. There are some simple things usually ignored in this haste. One is, that forceps are not to be applied until the os is so dilated or dilatable that both head and forceps will emerge without stretching the part until tears result. There is no reference here to abnormal conditions, or even normal conditions, that make this sort of delivery impossible without some rupture; it is the undue haste that is condemned. Again, the ordinary forceps is not to be compared, as to either safety or ease, with the traction forceps, yet comparatively few of the latter are in use in general practice.

If a rupture of the cervix or perineum does occur, repair the latter from at once to within twenty-four hours, and the former within forty-eight hours, according to the condition of the patient. In repair, the important thing to remember is, that the tear is from within outward; that in early repair the parts will come as naturally into adaptation, as a tear in any other part of the body. If the attendant is not competent to do this, then justice both to himself and patient, demands that he should at once call in some one who is. It is a shame to allow one who trusts her welfare into the hands of another, to be left to drag out the life of an invalid, through the neglect of the one so trusted.

With many young physicians, and some not young, there is a false idea, that to call in another more competent man, is a sort of "give away"; that the patient or family will

regard it only as a want of skill on the part of the attendant, if he does so. It is a great mistake. That young doctor, who has the good sense to call in experience in a difficult case, will win nine times in ten, over the "know it all," and keep the confidence of his patient besides.

When version is necessary, the rule in general practice is to proceed by the podalic method. The combined methods of internal and external manipulations is preferable. There are comparatively few general practitioners, who are competent to perform version by the external method only. This last method has an element of uncertainty about it that bars it from common usage. The same rule as to dilated or dilatable os is to be followed in version, as in the use of forceps. Otherwise the same unfortunate results follow. Whatever question may arise as to the advisability of administering ergot in any stage of labor, when version is necessary, its use is to be very much deplored. Cases have come to the knowledge of the writer when it had been given, that caused hours of delay from strong contraction in spite of anaesthesia. Gentleness and slowness saves the parts, as well as the reputation of the attendant. In post partum haemorrhage, one serious danger is in the practitioner not having at hand the necessary means to deal with the condition. Ergot is generally the only thing in the grip for that purpose. A good big dose is given by the mouth, and the patient is nearly pulseless before it can have any effect. No practitioner should go to an obstetric case, without having with him prompt, effective means to meet emergencies. Yet this is not commonly done. Ergot and a hypodermic syringe satisfies the consciences of too many. Once the writer was so careless that not even these were at hand when a gush of blood flowed out that covered the arm to the elbow. It was winter, and, fortunately, close by the bed was a window,

the sill piled with snow. To open it, make a snowball, and push it into the uterus, was the work of a minute. That snow saved the patient's life, and the event taught the attendant a lesson he never forgot.

It is not necessary to weary you with the many things that may be done in these cases. The point wished to be made is, that the means are to be at hand, not in the office or drug store. There are cases, not very common, in which, after labor is completed, the patient clean and comfortable, with a well contracted uterus, that haemorrhage occurs one or more hours afterwards. The attendant, hastily recalled, finds the uterus large and contracted on a solid clot, and the haemorrhage stopped. It is wisdom to let that clot alone. Usually, it is expelled in a short time, and in the process the uterus contracts naturally.

After completion of labor, perseverent insistence on cleanliness is to be the rule *without exception*. That, and many other commonplaces, might be taken up, both as to mother and child, but enough has been mentioned to serve the purposes of this paper. Our journals are full of the details of great things; our literature is approaching completeness, in theory and practice of the uncommon. Many a practitioner who longs for an opportunity to distinguish himself by an operation, never takes time to ascertain if his obstetric patient uses a clean syringe. The careful "family doctor" frequently hears from a new patient, "Doctor, this was not done in any of my previous confinements. Is it necessary?" Not infrequently the consultant physician finds that nearly all the preventable aids have not been used, and this not from ignorance, but neglect.

This paper is not the vaporings of a "scold." The experiences of nearly thirty years, emphasize the necessity of careful attention to the common, as well as the importance of readiness to meet the uncom-

mon. None know better than the writer, how simple this paper appears to many. None know better than he who addresses you, how very commonplace it is. It is so intended. But, gentlemen, the careful, conscientious attention to the commonplaces, means comfort, health, happiness, perchance the very existence of her to whom every man, who is a man, bows in respectful reverence; of her whom every one of us is bound to protect, care for, and save, if the need be, even at the peril of his own life, the American mother.

SOME REMARKS AS TO THE DIAGNOSIS OF RECTAL AFFECTIONS, WITH ESPECIAL REFERENCE TO THE PHYSICAL EXPLORATION OF THE RECTUM.

BY LEWIS H. ADLER, JR., M. D., OF PHILADELPHIA.

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There are some practitioners who think that the diagnosis of rectal diseases is attended by considerable difficulties and that complicated apparatus is required in order to reach a positive conclusion. Such is not the case. Nor, on the other hand, is it true, that any satisfactory opinion can be formed by a cursory and careless inspection of the anus and adjacent parts. It is due to such a method of examining that I have noted polypoid growths diagnosed as prolapse of the bowel, and fissure of the anus or irritable ulcer (a better name), unsuccessfully treated because of the presence of an undiscovered polypus. Likewise, persons affected with malignant stricture of the rectum being subjected to operation for the removal of coexisting hemorrhoids or of a fistula-in-ano whilst the real trouble was undetected.

My object in presenting this paper is to detail the method which I employ in investigating cases of rectal disease and affections of the sigmoid flexure and to lay special stress upon the necessity of making a thorough physical exploration of the bowel in every case of suspected local trouble.

All persons suffering from diseases of the rectum are much depressed and more or less nervous. This fact, combined with the natural restraint experienced in paying a first visit to a physician should be realized by the examiner and in order to aid such persons to recover their composure it is best to encourage them to give the history of the disease in all its details. Whilst this consumes time, the important object is accomplished of securing the co-operation of the patient in the subsequent steps of the investigation, to-wit,—the digital exploration of the bowel,—without which a positive diagnosis can never be made. These remarks are especially applicable to the treatment of females. Assent to a vaginal examination is much more readily obtained than is the consent to inspect the seat of rectal trouble.

After the patient has concluded the description of the ailment, then by a few well-directed, but not leading questions, we may be able to complete the history. The following are the principal queries which may be asked with advantage:

First, in Reference to Pain.—Is there any pain? If so, of what character? Is it situated in the rectum? What is its relation to the act of defecation? Is it worse during an evacuation, shortly afterwards, or sometime after the movement? Is itching, a sense of fullness or heat experienced?

Second, Regarding Protrusion at the Fundament.—Is there any swelling or protrusion at the anus? Does this occur only at defecation, or is it independent of this act? Does it bleed? Does it go back spontaneously, or has the patient to return it?

Third, as to the Presence of a Discharge.—Is there any discharge? If so, what is its nature (bloody, mucous, or purulent)? Is it offensive? Does it occur before or immediately after defecation, or is it independent of the action of the bowels?

Fourth, as to the Regularity of the Action of the Bowels.—Is there a daily movement, or does constipation or diarrhoea exist? What is the character of the fecal evacuation, as to color, size and consistence?

Finally, the Following General Interrogations Should Be Made.—Does the patient cough, have night sweats, spit blood or has there been a loss of flesh? What are the habits of life, especially with reference to the use of alcoholic liquors, tobacco, and to indulgence in venery? Is there any specific history? Lastly, enquire as to any hereditary tendency to rectal trouble, malignant disease, kidney, liver or heart affection. In women enquire into the condition of the sexual organs, etc. Whenever the idea of any operative procedure is entertained, the urine should be examined and a thorough physical inspection of the patient made.

Having obtained the subjective symptoms and being satisfied as to the existence of rectal disease, we proceed to confirm the provisional diagnosis and to obtain positive information upon which to base the prognosis and to guide the treatment, by making a thorough local examination. If possible, the patient should have the bowel emptied by an enema immediately before an examination is attempted. In the case of female patients especially, the neglect of this, will often render a thorough investigation impossible, without recourse to anæsthesia, owing to the fear of an accident occurring—such as the escape of flatus. Under such circumstances I have known the sphincter muscles to be so tightly closed that the surgeon was frustrated in the attempt to explore the parts. When a specular examination is necessary, as in the case of an

investigation of the higher portions of the rectum, or of the sigmoid flexure, it is absolutely essential that the contents of the bowel be removed.

There are various postures in which this examination may be made. Some surgeons prefer the patient to lean over the back of an ordinary chair; others, to have them kneel upon a table with the head placed on the folded arms of the patient, by which means the buttocks are elevated and the intestines are allowed to gravitate from the seat of investigation; others, the lithotomy position; but for general use, I think that the most comfortable as well as the most delicate posture for the patient, and that most convenient for the examiner is for the patient to lie on a firm couch on the left side, the right shoulder turned away from the surgeon, the left arm brought behind the body, and the right thigh well flexed upon the abdomen.

In examining for the presence of strictures or growths situated above the lower four inches of the rectum, by directing the patient to stand and strain, the diseased part will be brought nearer to the anus, so that at least an inch or more of the bowel may be explored than can be done when the patient assumes the usual position, even though directions be given to bear down.

Regarding light, either natural or artificial light may be used. I prefer the former. By means of a head mirror—the operator sitting facing the light and the patient's back being from the same—the light may be concentrated upon any particular point requiring observation. The instruments usually required are: A flexible probe made of silver, useful for the exploration of fistulous tracks; an exploring needle, or a small trocar, by means of which can be ascertained the nature of the contents of any swelling or fluid collection; Dr. Howard A. Kelley's short and long protoscope, and sigmoidoscope; sponge-holders; basins and possibly a hypodermatic syringe, with a flexible silver cannula attached, which is useful in

detecting whether a fistula be complete or otherwise. Plenty of towels and cotton should be on hand.

Everything being in readiness for the examination, we now proceed to inspect the condition of the external parts. On separating the buttocks, the orifice of the anus will come into view.

The radiating folds should be separated by the fingers, and cracks, excoriations, and fissures should be looked for. External hemorrhoids will also be noted, if present. By passing the finger around the anus and making pressure, any induration that exists will be detected; this may be due to a fistula or an abscess. If the parts are covered with a discharge, it should be wiped away and its source traced, as to whether it be from an external opening of a fistulous track, etc. Eruptions of any kind, eczematous, syphilitic, or otherwise, must also be noticed.

The next step is to make a digital examination of the interior of the rectum. It is by this means that the most important information is to be gleaned and it is a procedure that should never be omitted in any case of presumed rectal trouble. Such an investigation is not a very pleasant one, either to the patient or to the practitioner, yet without it, the physician needlessly sacrifices his reputation and risks possibly the patient's life. It sometimes happens that a patient refuses to be examined. I recall the case of a woman who visited my office and who, not only refused permission for an examination, but freely expressed her surprise at my making the request. In part, this action was explained when she informed me that I was the fifteenth or sixteenth doctor she had consulted and that it was the first time that any such procedure had been suggested. I politely informed her that the investigation was particularly needful in her case and might be the means of preventing any further increase in the number of her medical advisors.

The method of making the examination is as follows: The nail of the index finger being well-trimmed and the finger lubricated with carbolized linseed oil, which I prefer to vaseline or other similar substances, is introduced into the bowel by a slow boring motion, in a direction, at first slightly forward. This should be done gradually, so as to allow the sphincters time to relax; if attempted too hurriedly or in too forcible a manner, spasm of the muscles will to a certainty be induced. As the finger enters, the conditions of the sphincters is to be noted. The strength, measured by the power of resistance, will be found to vary greatly in different people. In the aged or debilitated it is apt to be very weak; and just the reverse in the strong and healthy. In persons of a specially nervous tendency and in cases of irritable ulcer of the anus, a contraction may be met with, which owing to the pain, will render an examination impossible without the use of an anæsthetic.

The finger should now be passed its full length up the bowel unless an obstruction exists, and by instructing the patient to bear down forcibly—the rectum can be explored for a considerable distance. Additional length may be gained by passing the other fingers of the examining hand backward along the intergluteal groove, instead of closing them in the palm, as is generally done and pressing the knuckles against the soft parts. The knuckles, in the latter procedure, prevent the full passage of the index finger. In this manner, about three and a half or four inches of the rectum may be explored, together with the prostate, the neck of the bladder, the uterus, the anterior surface of the coccyx and the lower part of the sacrum, the ovaries and tubes, and the broad ligament. With an exceptionally long finger it may be possible to feel the seminal vesicles and the vas deferens.

In making an examination of the rectum it must be borne in mind that frequently

two or more rectal affections coexist; as for instance a polypoid growth complicating a fissure or malignant disease existing with fistula and hemorrhoids, etc.

Malignant infiltration, or stricture, can be detected, if situated within reach. By sweeping the finger around the mucous membrane, its condition can be noted; a general smoothness, and absence of the normal folds indicating atony. Ulceration may be recognized; and the attachment of polypi can be felt. In examining for a polypus, it is important that the finger be brought from above downward; as otherwise, the growth may be pushed out of reach owing to the length of the pedicle, which is often considerably elongated.

Fecal masses in the rectal pouch can be recognized without difficulty.

The finger is now to be partly withdrawn, passing the palmar surface around the entire surface of the mucous membrane as this is done, in order to note the existence of internal openings of fistulæ, the seat of ulcers, etc. As the outlet of the bowel is approached, internal piles may be perceived, but the fact should always be remembered that unless they are thickened by inflammatory changes, they are extremely hard to recognize by the touch; in point of fact, the sensation conveyed to the finger is more apt to deceive the surgeon than any other rectal trouble.

Mr. Chas. B. Ball states in his admirable treatise on "The Rectum and Anus, Their Diseases and Treatment," that he has frequently seen cases in which these growths, although scarcely appreciable to the touch, were found, upon ocular examination after dilatation of the sphincters, to be of considerable size. This he claims is owing to the fact that they are so soft and movable that they closely resemble in feel the normal columns and folds of the mucous membrane.

The Use of the Speculum.—In the large majority of rectal diseases, digital and ocu-

lar examination is sufficient for purposes of diagnosis, but for some cases the use of the speculum is a desirable adjunct. These instruments are made in a variety of forms. The speculum which I now commonly employ for diagnostic purposes, is one of the several lengths of Dr. Kelley's tubes. The length of the tube to be selected depending on the portion of the bowel to be explored. Before being introduced into the rectum, the speculum should be warmed and well lubricated; it should then be inserted into the anus, and gently but slowly directed a little forward and upward for a distance of about an inch, as if to pass from the perineum to the umbilicus, in order that it may follow the course of the anal canal; having reached this depth which is somewhat greater in the male than in the opposite sex, the point should be inclined backward, first slightly, and afterwards to a greater extent, until the instrument is fully inserted.

Should the interior view of the rectum be obstructed by blood, mucus or feces, a mop of cotton attached to a holder, made for the purpose, should be used to cleanse the parts. With these instruments the interior of the rectum and the sigmoid flexure can be examined and the exact condition of affairs ascertained. Other forms of speculæ are furnished with blades or plates which can be separated to the requisite extent by means of a screw attachment.

The Use of the Rectal Bougie for diagnostic purposes I mention only to condemn. The introduction of these instruments is one of considerable difficulty and requires greater practice than the passage of a urethral catheter; the danger of perforation is as great, and the result of such an accident is very much more serious than in the urethra. In the one case a fatal peritonitis will likely be started, while in the other a false passage will probably be the sequence. The use of the Kelley tube has obviated the necessity of employing the

rectal bougie for the purpose of diagnosis.

Rectal Eversion as a Means of Diagnosis.—In examining the rectum in females, Dr. H. R. Stover, of Boston, has recommended eversion of the bowel by the fingers placed into the vagina. This method is useful in women who have borne children, but not in the young and unmarried. A portion of the anterior wall may thus be exposed.

The Introduction of the Hand Into the Rectum is a procedure which may be a means of exploration open to the surgeon, but I am not inclined to view the amount of information obtainable by its use sufficient to warrant the practice.

Exploration With a Silver Probe, seven or eight inches in length, is of value in detecting blind, external or internal and complete anal fistulæ. Being flexible, it may be bent to any desired form.

Injections of Various Fluids, such as peroxide of hydrogen, a two per cent solution of creolin, milk or a weak iodine solution often serve a useful purpose for detecting the internal opening of a fistulous track.

CANCER AND ITS TREATMENT BY THE CATAPHORIC DESTRUCTION OF ITS ESSENTIAL GERMS.

By G. BETTON MASSEY, M. D., OF PHILADELPHIA.

The increasing prevalence of cancerous affections would long since have riveted the attention of medical men, had not the feeling of utter helplessness in the presence of this affection served to dampen and discourage effort. The frequent failure of operative measures, and the increasing tendency on the part of surgeons, to remove ever increasing portions of surrounding healthy tissues, has bred a distrust on the part of physicians and patients towards any actual treatment, though I have reason to believe that more cases are operated on under favorable conditions, than ever before. In spite of this general effort at early

operation, stimulated by an increasing belief in the purely local origin of cancerous tumors, the prevalence of these affections has gone on increasing at a most alarming rate, as shown in mortality tables wherever compiled in civilized countries. To get at the exact facts on this question in this portion of the country, I have asked the Registrar of Vital Statistics, of Philadelphia, to prepare a tabulated statement of the mortality from cancer in Philadelphia, from the beginning of the city's record to the present time, which I subjoin to this paper. This table unfortunately covers but thirty-six years, extending from 1861 to 1897, inclusive. An examination of it will show that in 1861 there were 31.7 deaths from cancer to 100,000 population, and that 13.6 persons died of cancer in 1000 deaths. The figures for last year were 56.6 deaths from cancer to 100,000 population, and 30.2 deaths from cancer to 1000 deaths.

In other words the deaths from cancer in 100,000 persons in Philadelphia have increased from 31 and a fraction to 56 and a fraction in thirty-six years. In every thousand deaths in the same time the ratio of cancer has increased from 13 and a fraction to 30 and a fraction; showing that its relative frequency in Philadelphia has almost tripled in the last thirty-six years.

A recent tabulation of the mortality of cancer in England shows a quite similar increase, the years taken being 1861 and 1886. In the former year there were 37.6 deaths from cancer per 100,000 population; in 1886 61. deaths from cancer per 100,000 population.

The hope that this black cloud, that now threatens future generations even more grievously than the present, may be dispelled, lies in the establishment of the truth of the parasitic nature of cancer, for when this is generally understood the value of early destruction will stimulate early attention to cases. The full recognition of the parasitic nature of cancer will also turn

the attention of the surgeon to methods that will not risk the transplanting of the germs to cut surfaces, thus causing auto-inoculation. Recent experiments by two Italian physicians, Sanfelice and Roncali, in 1895, which have been verified in Vienna, apparently establish the fact that cancer is due to a blastomycetis or yeast-like fungus, and it is extremely probable that the germs themselves are taken into the body in some way from a previous stage of existence, either in the soil or in the parasitic tumors of trees.

These demonstrations of the parasitic nature of cancer are extremely interesting in connection with my own method of treating these affections, which was alluded to before this body the year before last and which may be said to be the highest possible expression of an interstitial parasiticide. I shall not go into the minute details of this method, nor of the cases that have been cured, both of which have been recently published,* but will merely recite its general principles and exhibit the apparatus required in its application.

Briefly stated, the method consists in the interstitial dissemination of the nascent oxychloride of mercury, or of the mixed oxychloride of zinc and mercury, throughout the growth by radiant cataphoresis. The patient is placed under ether and an electrode of gold, covered with mercury, or of zinc and mercury, is inserted into the growth and large dispersing pads are placed on a distant part of the body. Sufficient current is now passed through the growth from the active electrode in its middle to spread the nascent oxychloride produced by erosion of this electrode throughout the tumor and its ramifications, resulting in interstitial death and absorption of the cancer germs and a portion of the stroma, and a final healing by granulation of the

*For details of method and cases see paper by the writer in Philadelphia Medical Journal, March 19th, 1898.

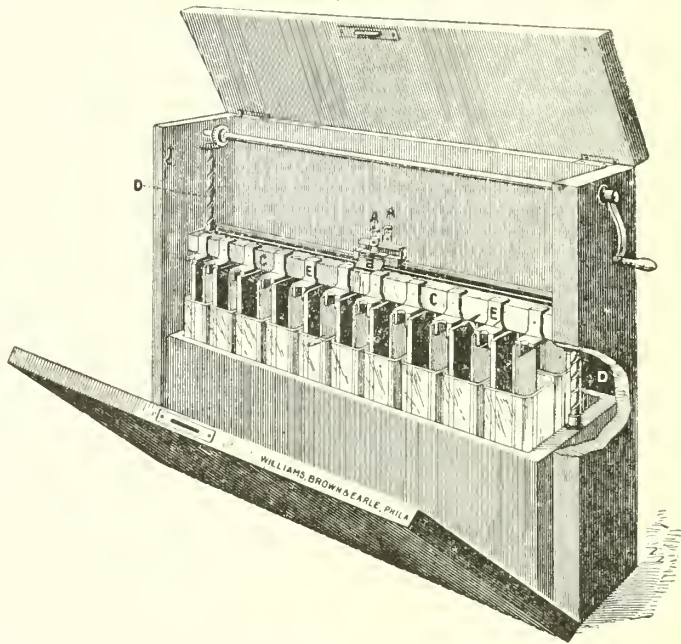
site of the growth. To do this strong currents are required, and a duration of the application appropriate to the extent of the growth, every effort being made to destroy all germs in one application. The current strengths will vary from 350 milliamperes in small growths to 1500 in large ones, for a duration varying from fifteen minutes to a half hour.

To produce such medically enormous currents I have been compelled to lay aside the ordinary portable galvanic batteries, many of which are mere toys at best, and have designed a transportable galvanic

ease; and the ease with which each pair of elements is detached for amalgamation and replaced. Each of these points may seem trivial, but they will make the difference between success and failure in actual use.

Two such batteries are needed in cancer work, and they may be sent empty to any part of the country, and will require a gallon each of electropoion, or ordinary battery solution, with which they are readily charged before use.

The electrodes for cataphoric diffusion of mercury within cancerous tissue I also show. They are of various shapes, those



battery, a sample of which, made by Williams, Brown & Earle, of Philadelphia, I herewith exhibit.

The special features of this battery which not only render it available in the large currents of cancer but equally convenient in ordinary work not requiring high portability, are the capacious glass cells, which hold enough acid solution for prolonged treatment and will resist corrosion, the mechanism for raising and lowering the elements, permitting the use of this means of controlling the current with great

of gold being hollow for the addition of an excess of mercury to its amalgamated surface during action, and those of zinc simply amalgamated, since the mercury is not so easily exhausted from their surface by reason of a large proportion of the zinc itself being conveyed into the tissues, producing a greater caustic action than mercury alone.

Seven cases have been cured, including both carcinomas and sarcomas. Of these patients one was shown to the American Medical Association in June 1897 and two to the Philadelphia County Medical Society.

TABLE OF MORTALITY FROM CANCER IN PHILADELPHIA.

YEARS.	POPULATION (INTER-CENSUS YEARS ESTIMATED).	TOTAL MORTALITY.	CANCER MORTALITY.	CANCER MORTALITY TO POPULATION PER 100,000.	CANCER MORTALITY TO TOTAL MORTALITY PER 1,000.
1861.....	576,480	†13,540	183	31.7	13.6
1862.....	587,287	†13,864	183	31.1	13.2
1863.....	598,166	†14,220	190	31.7	13.3
1864.....	608,045	†15,875	180	29.1	11.3
1865	618,924	†15,633	188	30.3	12.0
1866.....	620,803	†15,362	203	32.7	13.2
1867.....	640,642	12,660	200	31.2	15.8
1868.....	651,561	13,391	236	36.2	17.6
1869.....	662,440	13,428	232	35.0	17.2
1870.....	* 674,022	15,317	261	38.7	17.0
			‡ 32.77		14.42
1871.....	700,000	15,485	280	40.0	18.1
1872.....	725,000	18,987	316	43.5	16.6
1873.....	750,000	15,224	268	35.9	17.6
1874	775,000	15,238	307	40.8	20.1
1875.....	800,000	17,805	318	40.0	17.8
1876.....	825,594	18,892	310	37.5	16.4
1877.....	850,856	16,004	327	38.1	20.4
1878.....	876,118	15,743	380	43.3	24.1
1879.....	901,380	15,473	364	40.3	23.5
1880.....	* 846,940	17,711	368	43.4	20.7
			‡ 40.28		19.53
1881.....	868,000	19,515	413	47.6	21.1
1882.....	886,539	20,059	429	48.3	21.3
1883.....	907,041	20,076	404	44.5	20.1
1884.....	927,995	19,999	476	51.3	33.8
1885.....	949,432	21,392	487	51.3	22.7
1886.....	97 3,363	20,005	461	47.4	23.0
1887.....	993,801	21,719	500	50.3	23.0
1888	1,016,758	20,372	448	44.0	21.9
1889.....	1,040,245	20,536	531	51.0	25.8
1890.....	*1,046,964	21,732	537	51.3	24.7
			‡ 48.70		22.74
1891.....	1,069,264	23,367	572	53.4	24.5
1892.....	1,092,168	24,305	569	52.1	23.4
1893.....	1,115,5 2	23,655	614	55.0	26.0
1894.....	1,139,457	22,680	589	51.7	26.0
1895.....	1,143,864	23,796	682	59.6	28.6
1896.....	1,168,793	23,982	676	57.8	28.2
1897.....	1,214,256	22,735	688	56.6	30.2
			‡ 55.17		26.70

*U. S. Census—(Inter-census years estimated.)
†1861-1865—Period covering the Civil War, mortality increased by deaths in U. S. hospitals.
‡Ratio by periods of ten years.

NOTE.—The writer has been able to add two apparently successful cases to the list since the reading of this paper, one being a carcinoma of the floor of the mouth, and the other a carcinoma of the breast. In the latter instance the greater portion of the mammary gland was saved intact. There has been but one recurrence in a case apparently cured, in which an epithelioma of the tongue, though locally destroyed and beautifully healed, recurred in the submaxillary glands.

THE MENTAL HYGIENE OF THE ADOLESCENT PERIOD.

By THEODORE DILLER, M. D., OF PITTSBURG.

Neurologist to the Allegheny General Hospital;
Visiting Physician to St. Francis Hospital.

The years between the appearance of puberty and the completion of full growth into manhood or womanhood at about 25 in the former and 21 years of age in the latter case, which we call the period of adolescence, are years, during which the future of the man or woman is being very largely moulded. Up to the time of puberty there has, to be sure, been steady growth, the sum total of which has been very great. The changes taking place at puberty are sufficiently striking that he who fails to note them must indeed be accounted dull and unobservant. With puberty begins a new, a larger and a vastly more complex and important growth. During adolescence, physical development goes on and is completed; and at the same time metabolic changes take place and are adjusted to each other in such a manner that they keep pace with and harmonize with these constant developmental changes.

Man differs from the lower animals in requiring a much larger percentage of the years of his lifetime to attain his full development. Roughly speaking the third of his lifetime is required for his full development.

The chief features of the adolescent period are the development of sexual characteristics and the unfolding of new mental operations and their adjustment to each other. It is indeed significant that with the beginning of sexual life (which is only completed at the end of the adolescent period) should also begin mental operations hitherto latent or absent, and a new adjustment to the outside world, the most striking features of which are the realization of the world outside, the awakening of

the altruistic spirit and religious emotions. These all result from rapid developmental changes in the nervous and sexual apparatus which occur about the time of puberty. The awakening is rather sudden, but the changes go on though less rapidly, all through adolescence. The shyness and imitateness of the child are in strong contrast with the self assurance, assumed air of indifference and sexual egoism of the adolescent. Sexual, mental, moral, altruistic and religious characteristics of the adolescent become more and more blended to form the personality of the matured man or woman. "The adolescent feels intuitively that he has entered a new country, the face of which he does not know. But yet that is full of possibility of good and happiness for him. The real events and possibilities of the future are reflected in vague and dream-like emotions and longings." (1.)

With the realization of the world outside self of the adolescent begins serious thought and new emotions. "Then he begins to feel after the reality or spiritual contents" (2), Prof. Starbuck has found from the examination of a large number of persons that most of them experience religious feeling as manifested by "conversion" or sealed by confirmation at or about the age of puberty, (3) and this he regards as "a vital normal step in individual growth" appealing to the most primal instincts.

With the foregoing conception of the adolescent period the responsibilities of the parent, the teacher and pastor may be realized. These responsibilities would be far better discharged were the adolescent period itself and certain fundamental truths of the physiology and psychology pertaining to it better known by those who train our youth. It is this realization

which is most needed; for with it, the parent, or teacher, may himself readily fill in many details. It is not too much to say that this knowledge, in the proper hands is capable, not rarely, of so moulding and guiding the adolescent as to save him from mental failure, vast unhappiness or indeed actual insanity.

Properly constituted adults who have been under a strong, wise and sympathetic teacher during their adolescent periods commonly realize the large debt of gratitude owing to him for the moulding of character which they received from him. In this dear old town of my nativity and boyhood days I most gratefully recall instruction and guidance received from one such teacher as I describe richly endowed by nature for his work and who, I am happy to say, still labors on.

These solemn responsibilities and magnificent opportunities of the teacher are being more and more realized. The science of pedagogy is to-day being studied more earnestly more largely and intelligently than ever before; it is being studied, too, in the light of modern physiology and psychology.

The responsibilities of the parent and pastor are not less, but rather greater than those of the teacher. All three should work together much more than they do.

The nutritive changes accompanying the growth and highly complex developmental changes of the adolescent are so great that long hours of sleep and an abundance of nutritive food are the first requisites from the physical point of view. The healthy adolescent is, however, capable of very considerable mental and physical labor without harm if very long or continuous efforts be avoided and if sufficient time be allotted him for recreation and play. The play impulse is to be regarded as a primal instinct and any scheme of training which omits to amply provide for it is, indeed, defective. The adolescent, then, must have

1. Clouston Mental Diseases, p., 591.

2. Starbuck: Amer. Jr., Psychology. Vol. 8, p. 268 et seq.

3. Op. Cit.

an outlet for the play impulse. He will have some sort of fun. He needs guidance that it be of right kind, pure, innocent, wholesome.

Upon the general physical and mental development of the adolescent I cannot dwell. But I must say a word in closing on the birth and development of his sexual life and of his religious and ethical feelings. He stands in peculiar need of guidance with regard to his relationship to others and to society and his religious aspirations. Some need stimulation of religious and ethical feelings while the opposite treatment is called for in others who are, hyper-sensitive, unduly introspective or morbid. The fact that sexual and religious delusions are commonly seen in the insane bears witness to the importance of these primal instincts. It is only trite to say that an approximation to the norm should be sought.

With puberty, then, begin vast and far-reaching evolutionary processes which go on through adolescence. The boy or girl entering upon it is to be regarded as a tremendous potential force, as having within him more or less great possibilities; with their unfolding or realization during adolescence, the parent, teacher, and pastor have enormous responsibilities which I have endeavored to indicate.

The physician comes in less intimate contact with the healthy adolescent. But indirectly his influence, too, may be great; for he is brought in contact with those to whose guidance the adolescent is immediately entrusted; and they naturally look to him for help. It is much to be hoped that the influence of physicians should become more direct. Their more numerous representation on boards of education and church vestries and boards of trustees would, in a measure realize this hope.

Hyoscine hydrobromate, in the 1-100 to 1-75 grain dose, hypodermatically, is doubtless the best hypnotic in maniacal delirium.

AMETROPIA AND MUSCLE-IMBALANCE IN YOUNG CHILDREN.

BY GEORGE M. GOULD, M. D., OF PHILADELPHIA.

There are many ways in which the general practitioner can prevent future ocular trouble in his patients, but, with the exception of neonatorum ophthalmia, I doubt if any is more important and far-reaching than that of detecting at the earliest possible day the existence of defective vision or imbalance of the ocular muscles, and seriously warning the patients or parents of the danger of delaying the necessary remedies. Professional teaching, traditions, and rules are either indifferent, silent, or even so flatly opposed to what I consider the truth, that I venture to speak of the matter. I have seen surely hundreds of eyes ruined because of this false teaching, this almost criminal negligence. Surely the great majority of cases of heterophoria and strabismus are due to ametropia; still more sure is it that uncorrected ametropia produces amblyopia; most certain of all is the fact that ametropia, when corrected early enough in life, prevents the amblyopia, the insufficiency, the squint, whereby so many eyes are made functionless. This is the first truth I would emphasize; the second is that a child's character and health may in a few years be thoroughly morbidized—if I may coin a word—by uncorrected ametropia. The moral, the resultant rule of practice derived from both facts, is the duty of catching the disease-process before it is irremediable. Every year, every month of the child's life that pathogenic ametropia is operative is the most precious of all wasted opportunities. When the plastic tissues and incipient habits are in their early formative stages everything may be hoped and attempted. With every year lost the possibility of cure becomes less and less. I will illustrate these statements by the histories of a few cases, three of which have been kindly furnished by my friend, Dr. Arthur G. Bennett, of Buffalo, N. Y., and one by

Dr. Helen Murphy, of Philadelphia. These I will epitomize first:

Case I.—Howard N. was 30 months old when brought September 13, 1897, the mother having noticed turning in of the left eye¹ when the child looked at pictures, toys, etc.

Under a mydriatic the eye came straight. By retinoscopy his error was estimated to be + Sph. 4.00 in each eye, with no astigmatism discoverable. Sph.+3.00 lenses were ordered, since which the child's squint has entirely disappeared while the glasses are in place, but returns if they are removed. If his mother forgets to put his glasses on, the child asks for them at once. Dr. Bennett has given me this photograph of the child.

Case II.—Lillian F., on December 12, 1897, was 28 months old and her left eye had been convergent for 6 months. After a week's mydriasis the strabismus had decidedly improved, but the eye was only momentarily straight. The total error was estimated by retinoscopy, B. E., + Sph. 1.50 + Cyl. 2.00, ax. 90°.

Spectacles were ordered less 0.50 Sph., and at subsequent visits the eyes were found decidedly more nearly straight, and at times entirely so, although the result so far has not been perfect. The child was very restless, preventing, possibly, the most accurate refraction, and certainly the securing of a photograph. But she is also devoted to her glasses wears them constantly.

Case III.—Gertrude B., was brought for intense photophobia February 9, 1898, aged then 31 months. The child had not been out doors for a year except at night. Even artificial light could not be endured. No evidence of present or past corneal or conjunctival diseases existed, but the eyes were flooded with tears by light. Mydriasis for a week lessened the photophobia so that the retinoscopic tests could be endured. Len-

ses, + Sph. 0.50 + Cyl. 0.50, ax. 90°, were ordered worn constantly, and the photophobia disappeared.

Case IV.—M. B., is a patient of my assistant, Dr. Helen Murphy, who kindly gives me the notes of the case. The child was 3 years and 3 months of age when brought October 21, 1897. Since having the mumps 3 months previously, the mother says the eyes have crossed. The conjunctiva was injected and roughened, the choroid flannel-red and fluffy. By retinoscopy the error was estimated to be 5.25 B. E. Sph. + 5.00 D. lenses were ordered and worn with pleasure by the child, the strabismus entirely disappearing.

Case V.—E. M. (Case 4,736), 29 months old, began squinting when 3 months old, and when brought to me May 3, 1897, the left eye was turned inward constantly and completely, whilst the right was sometimes also convergent. Estimation of the hyperopia was highly difficult, but was surely nearly 6.00 D. Lenses + Sph. 4.00 D. were ordered, and since then atropin in the right eye for a week or more, with alternating use of the blinder, has been kept up. The left eye is still somewhat convergent, but markedly less so than formerly, and is bettering every day. The parents are delighted at the improvement, and the child will not go without his glasses a minute. Deterioration of vision is being stopped, and in a year perfect refraction will be possible and two good eyes, I think, assured.

Case VI.—At 5 years of age the left eye of E. S. (Case 3,773) had been convergent for 2 years, and its visual acuity with correction only $\frac{2}{40}$. Correction of the high compound hyperopic astigmatism has cured the strabismus perfectly, and the vision of the right, which was only $\frac{2}{40}$, was at the last visit perfect. The $\frac{2}{40}$ vision of the squinting eye had not much improved, as the negligent parents would not see that the blinder was used; 2 or 3 years of infinitely valuable time had been lost.

1. The child's mother had a persistent pupillary membrane of the left eye, and his maternal grandmother atrophy of the left optic nerve.

Case VII.—H. T. (Case 2,862), aged 5, was brought September 12, 1893, with most pronounced alternating convergent strabismus for which several physicians had refused to prescribe glasses. I found compound hyperopic symmetrical astigmatism of between 5. and 6. D. With his glasses his eyes have remained perfectly straight ever since, but the instant the glasses are raised the right turns in, and stays so until the lenses have dropped in place. Several refractions since the first have secured accurate correction.

Case VIII.—M. E. (Case 3,167), aged 4, had divergent strabismus of the right eye until his medium high degree of simple hyperopic astigmatism was corrected. The affected eye has not quite recovered normal acuity, but its certain loss has been prevented.

Case IX.—L. F. (Case 4,223), aged 6, had alternate divergent strabismus follicular conjunctivitis, and blepharitis, until her unsymmetrical compound hyperopic astigmatism was corrected, since which the eyes are straight and the lids and conjunctiva are healthy.

Case X.—A.H. (Case 3,319), aged 5, was, when brought to me, a sickly, anemic boy, in bad general health, and with internal strabismus of the left eye. I found a high degree of compound hyperopic astigmatism, the correction of which cured the strabismus, and contributed greatly, I believe, to much-improved general health.

Case XI.—B. H. M. (Case 2,372), 6 years of age, had internal strabismus of the right eye whenever he was tired or excited. Its acuity was $\frac{2}{40}$. With correction of about 6 D. of compound hyperopic astigmatism, greater in the right eye than in the left, the eye is straight with the glasses on, but turns in suddenly when the lenses are raised. The vision, even with negligent use of the blinder-exercises, had improved at the last visit to $\frac{2}{40}$.

Case XII.—W. K. L. (Case 2,347), aged 5, was, when first seen, a thin, pale, anemic,

nervous child, afflicted with night-terrors and poor appetite. Correction of his high hyperopia in 3 months gave him sound and peaceful sleep, a good appetite, and perfect health.

Case XIII.—F. McL. (Case 4,184), aged 6, was at that early age afflicted with sick headaches anorexia, styes, and conjunctivitis. I have refracted him several times within the past 3 years, the last most accurate estimate being:

R. — Sph. 3.75 — Cyl. 4.25, ax. $180^\circ = \frac{2}{40}?$

L. — Sph. 3.75 — Cyl. 5.75, ax. $170^\circ = \frac{2}{40}?$

The vision since the first correction has doubled; the sick headaches and bilious attacks have disappeared, and the general health became good at once after the first application of glasses.

Case XIV.—E. P. (Case 2,472), aged 6, was a poor sleeper, kicking about and having bad dreams constantly. These symptoms disappeared at once with correction of her hyperopia; but if she studies without her glasses she is sure to sleep badly.

Case XV.—Since 1890 I have retested many times the eyes of W. P. (Case 923), .. years old. This fine boy has been savagely afflicted with terrible attacks of vomiting and headache, with many other symptoms, local and general, of severe eye-strain. His total compound hyperopic astigmatism when I first saw him was about 6 D. and vision $\frac{2}{40}$ with each eye. Since then his astigmatism has been constantly increasing, until it is now several times as much as at first. The hyperopia has lessened somewhat in the meantime. At the last mydriatic testing his refractive error was:

R. + Sph. 5.25 + Cyl. 2.50, ax. 90° .

L. + Sph. 5.25 + Cyl. 2.75, ax. 90° .

He has recovered perfect acuteness of vision in both eyes. Correction of his ametropia would give him relief until the increasing astigmatism was too great to bear, and then the piteous and protracted attacks of retching, headache, and exhaustion would again appear. Sometimes I have to change his glasses as often as three times

within a year. He has now been well and happy since November 1, 1897.

Case XVI.—M. S. (Case 3,129), aged 6, was a very nervous child, with blepharitis, occipital headaches, crying out and constantly kicking about in her sleep. The greatest complaint, however, was of nocturnal enuresis. I put her eyes under atropin for some days, and during these nights the child did not cry or moan in her sleep, did not wet the bed, nor have to get up to urinate. The glasses prescribed at once gave the same result permanently.

Case XVII.—H. W. (Case 2,225) was a child in very poor health, with alternate convergent strabismus, for which operations had been performed without the application of proper glasses—the ancient horrible blunder. She was a sickly looking creature, with blunted sensibilities and a stupid mind. Immediately upon the correction of very high hyperopia a change came over her whole being, mental and physical. Suffering, strabismus, nervousness, and anorexia disappeared as if by magic, and it seemed to me at times as if genuine imbecility had been averted. When she broke her glasses a year later and was without them for awhile the physical and mental morbidness again began appearing.

Case XVIII.—M. S. (Case 1,847), aged 6, was a nervous child, afflicted with headache, breakfast-anorexia (the almost unfailing sign of children's eye-strain), nightmares, somnambulism, etc. For years she had wet the bed every night, and for this the parents had consulted many physicians, and many things had been tried in vain. She had been taken to an oculist, who refused to apply glasses until she was older. Her vision with the best correction was less than $\frac{2}{10}$ with each eye. She had an enormous degree of compound hyperopic astigmatism at unsymmetrical axes. The last time I refracted her the error was:

R. + Cyl. 5.00, ax. 100°.

L. + Sph. 0.50 + Cyl. 5.75, ax. 85°.

The right eye has recovered perfectly normal vision, but the left was so badly injured that so far it has only doubled in visual acuteness. From the day I applied glasses she never has wet the bed once, and soon became "as fat as butter."

Case XIX.—As an example of the injury that may follow neglect, I wish to cite the case of O. L., aged 12, when he came to me November 12, 1895. At this time he was wearing R. + Sph. 4.75, L. + Sph. 5.25, with such vision as one-half correction would give, with divergent strabismus of the left eye, complaints of pains in the eyes, frontal and occipital headaches, etc. I took the boy out of school and have re-tested his refraction several times since. At the last and the most accurate one I found it:

R. + Sph. 9.00 + Cyl. 0.75, ax. 180°.

L. + Sph. 8.50 + Cyl. 0.50, ax. 180°.

When last seen he had $\frac{3}{10}$? in the right, and $\frac{2}{10}$? in the left. I fear the boy is badly maimed and handicapped for life. Normal convergence is still quite difficult and visual acuity will never be perfect. Perfect glasses at 3 or even 5 years of age would surely have preserved two functionally normal eyes for him.

Case XX.—The last case I will epitomize illustrates what may be done by glasses and exophoria-gymnastics if one will begin early enough and be sufficiently patient. A little girl, E. C. (Case 2,870), aged 7, the daughter of one of our best physicians, had in 1893 divergent strabismus usually of the right, and was wearing an over-correction of her low-degree compound hyperopic astigmatism that increased, of course, her tendency to divergence. Vision was normal in either eye. Her exophoria or strabismus, was from 25° to 30°, and her adduction power, was about 2°, i. e., under intense effort she could momentarily fix both visual axes on her near-point. I at once applied proper glasses and began gymnastic exercises of the interni. Through years of forgetfulness, sickness, and mani-

fold interruptions I have persisted in the treatment, until to-day the girl's eyes are perfectly straight, she has an esophoria of 6° and an adduction-power of 50°; she is a hard student and is without ocular trouble or reflexes. It is a great triumph of which I am very proud. Her low hyperopic astigmatism has changed into a low-grade myopic astigmatism.

In this series of cases I have endeavored to choose those illustrative of the different types of defects remediable by the very early application of glasses and other measures to bring both eyes in function. I have not referred to hundreds of similar cases that go to prove the text, nor have I adduced many cases showing the psychological effect of the relief of eye-strain. This is because the subject is such an old one with me. The first medical essay I wrote² was on this theme and ever since I have been harping upon it—how character, disposition, intellect, are modified morbidized, and in many ways profoundly affected, by eye-defects, and are normalized by correction if done early in life.

Physicians knowing little about the eye may yet easily detect the beginnings of muscle-imbalance and amblyopia early enough to rescue the eyes and organism from quickly on-coming ruin.

I beg to submit the following propositions:

1. Positive squint, easily recognized by anyone, needs immediate expert help to prevent fatal and permanent amblyopia.

2. By alternately covering the eyes (the cover test) the physician may, at a very early date, detect beginning imbalance.

3. By bandaging the good eye, and observing if the child can pick up, handle, and touch objects accurately, one may prove whether a suspected amblyopia really exists or not.

4. The earlier in childhood, even dur-

ing infant-life, that amblyopia, muscle imbalance, or high-degree ametropia is discovered, the easier the prevention of almost certain and irremediable ocular injury. The child may be too young to wear glasses, and still therapeutic measures may be instituted (temporary mydriasis or blinder for the good eye, for example) that will prevent injury too great for recovery.

5. Glasses, when required, must be ordered much earlier in life than is supposed possible or taught necessary. If I had a child of 2 years of age needing them I am sure they would be ordered, and just as sure they would not only be tolerated, but welcomed, and most sure they would prevent great ocular, physical, and mental injury.

POSTSCRIPT.

An unexpected, indirect, and unintended confirmation of the foregoing opinion has come to hand since writing, in an article by de Wecker, entitled, "La Proportion des Cas guerissables dans le Strabisme," published in *Annales d'Oculistique*, January, 1898. Out of 67,622 eye-patients of all kinds there were 3,002 cases of strabismus, and of these the poor patients were proportionally twice as numerous as those of the easy classes. This, of course, means that what little attention is given abroad to the subject of prevention served to lessen the evil of strabismus among the well-to-do one-half, the poor, of course, getting no attention and the well-to-do next to none. De Wecker says that the percentage of alternating-strabismus cases represents an equal proportion of curable cases, but that the so-called spontaneous cures occurring at from 12 to 16 years of age are only apparent binocular vision being scarcely ever re-established. Only the cases of periodic myopic strabismus with preserved acuity of both eyes are the truly curable ones. By "curable," de Wecker really means not the institution of binocular vision, but only the suppression of deformity; over 50 per cent. of mon-

² "The Psychological Influence of Errors of Refraction and of Their Correction," *Medical and Surgical Reporter*, Sept. 29, 1888.

olateral-strabismus cases are not capable of complete cure. Note the following figures:

CURABLE CASES—*i. e.* BINOCULAR VISION.

Periodical Myopes.	Periodical Hyperopes.	Permanent Monolateral.	Permanent Alternating.	Total.
161	479	421	269	1,330

INCURABLE—*i. e.*, WITHOUT BINOCULAR VISION.

Periodical, Myopes.	Periodical, Hyperopes.	Permanent, Monolateral.	Total.
42	138	1,492	1,672

In reference to these statistics there are several questions that arise:

1. Is it going too far to say that 99 per cent. of these 1,672 incurable cases could have been given binocular vision if proper glasses and proper treatment had been ordered from the earliest possible age? My own feeling is that the proportion would be found nearer 100 per cent. than 99 per cent.

2. Even if the percentage is smaller, think of the mental and emotional suffering, entailing an equal or greater amount of physical and worldly pain, up to the time of the cure by operation!

3. De Wecker claims the cures are due to the operation; how many of them were in fact due to the glasses undoubtedly applied after the operation? About this aspect of the matter not a word is said.

4. How many of the total number, both the curable and the incurable, could have been cured by the glasses without operation?

5. It is to be noted also that de Wecker calls curable cases those with vision greater than one-fourth. Nothing is said as to the percentage of such cases reaching really useful vision of the injured eye. A vision of but one-fourth seems to me to indicate an extremely strabismic charity to the "curer."

6. From another table of de Wecker we find that the numbers and ages at which the patients presented themselves were: from 5 to 10 years, 727 cases, and from 10 to 20 years, 1,032 cases; but we are not told at what ages the 1,330 curable cases

were actually cured by him. There can be little doubt, both from the figures given and from our common experience, that the truly curable were mostly the young.

THE CONSERVATIVE TREATMENT OF FIBROID TUMORS OF THE UTERUS.

BY E. E. MONTGOMERY, M. D., OF PHILADELPHIA.

The influence of fibroid growths of the uterus upon the general health of the patient is dependent to a large degree upon the situation of the tumor. Thus, an intramural, or mural tumor of small size which encroaches upon the mucous membrane will early give rise to profound disturbance of the menstrual function and consequently of the nutrition, while an extramural will remain without symptoms and only be discovered by accident. As the first class produces symptoms, it will necessarily oblige consideration of the best method for combating its baneful effects, but those growths which develop beneath the peritoneum and are only recognized by accident, may seriously lead to question as to the wisdom of their being subjected to any interference.

Considering all uterine fibroids it becomes then a question, first, as to what may be considered as proper reasons for subjecting them to treatment; and second, what shall be the course of interference. Among the indications which will be so apparent as to require no discussion, are the occurrence of hemorrhage at the regular period, but excessive in quantity, causing the length of the period to be greatly prolonged, or intermenstrual irregular bleeding induced by exposure, fatigue, excitement, or the sexual relation. In either class of cases, the patient may become profoundly anæmic and a lowered state of vitality results which will be favorable to the development of intercurrent diseases.

Instead of hemorrhage, the patient may suffer from a profuse, enervating mucus, or muco-purulent discharge. Small growths

may cause agonizing pain, uterine contractions similar to those of parturition. This symptom characterizes the intrauterine fibroid which the organ regards as a foreign body, upon the expulsion of which, all the energy of the uterus becomes concentrated. The pain may be so great as to demand the use of morphine for its relief, thus endangering the formation of a pernicious habit. Pressure upon the pelvic veins may produce œdema of the lower extremities, of the vulva and even of the tumor itself. Symptoms of peritonitis may develop trouble with the bladder, the rectum, or one or both ureters. Such diseased conditions are most frequently produced by pressure. I have repeatedly seen pressure upon the ureters result in their dilatation and that of the pelvis of the kidneys until the latter organ was sacculated with the greater portion of its structure destroyed. Large growths will disturb the respiration. Fatty changes are likely to occur in the heart. Necrosis may occur in the structure of the tumor, with the formation of pus, thus greatly increasing the danger, either with or without operation. Degenerative processes of a malignant character are possible. Sarcomatous infiltrate in the tumor is the most frequent form. With mural fibroids I have twice seen the mucous membrane of the entire uterine cavity undergoing epitheliomatous change. The influence upon pregnancy is not without interest. Occasionally, a fibroid will disappear under the changes of pregnancy and the subsequent puerperium. Not unfrequently, the patient will abort; sometimes the tumor, as the result of the increased tissue change in the uterus, will so rapidly enlarge that interference becomes necessary to relieve the oppression. Where the patient reaches the full term of pregnancy, her danger is by no means passed. The tumor may be so situated as to prove an obstacle to the progress of labor, or the involvement of the uterine wall causes irregular and ineffectual contractions, thus greatly delaying delivery.

The bruising of the tumor capsule during labor sets up inflammation, favors infection and subsequent suppuration. The processes of involution may arrest the nutrition in the growth and lead to loss of vitality and necrosis. Patients advanced in years are often advised that the menopause will arrest the growth and even lead to decrease in its size with relief from all of its annoying symptoms, but experience demonstrates that this cannot always be assured. In the mural and intramural varieties the climacteric is generally delayed, pain and hemorrhage are increased. Even subsequent to the menopause abnormal changes are not precluded. A deposit of calcareous material can take place in the tumor wall, and the circulation be so involved that necrosis results.

The advent of the menopause does not always mean arrest of growth, for these tumors frequently increase in size. This enlargement is, however, more frequently produced by œdema than from actual tissue growth.

Medical treatment affords but little encouragement. It is ineffective to control hemorrhage, while it aids in securing the extrusion of the growth and thus renders it more accessible to surgical procedure; it is exceedingly tedious and not without danger from necrosis through the too marked interference with nutrition.

The various alternative and absorbent remedies have not produced results worthy of consideration.

The disappearance of such tumors under the employment of electricity have been so rare as to justify doubt in the correctness of the diagnosis and observation.

Generally electricity does afford relief by diminution of the blood pressure in the uterine wall, reduction of the inflammation in the connective tissue enveloping the growth; diminution or cessation of the pain and the disappearance of the hemorrhage, but these beneficent results are not always secured.

Various other methods of local treatment, such as dilatation of the neck, section of the enveloping mucous membrane, massage of the uterus and tumor mass, hot douches, intra-uterine injections of solutions of iron or iodine, curettement, castration and ligation of uterine arteries, are neither always effectual or free from danger. I saw one patient have a severe pulmonary congestion and œdema following an intra-uterine injection for the control of hemorrhage induced by a submucous fibroid. The same patient later became insane. Curettement may be followed by suppuration in the tumor or its capsule, and cause death from sepsis. Ligation of the uterine arteries while attended with some danger of sepsis, still leaves the growths which must undergo a process of retrogression not unattended by possible peril. Aside from the limited number of cases, in which a pedunculated fibroid could be removed through the vagina, until within a few years no other opportunity was afforded the patient suffering from growths in other portions of the uterus, for their removal, than through a sacrificial operation involving the uterus, tubes and ovaries.

While not claiming to present an original device or method of procedure, it is my purpose to maintain that there are many uteri from which a sessile, submucous, an interstitial fibroid, or multiple growths, can be removed by enucleation, leaving a healthy functioning organ. This practice under proper aseptic precautions is attended with less shock and discomfort to the patient than the apparently more simple operation of extirpation of the organ. Whether the growth shall be attacked through the vagina or by the way of abdominal incision, will depend upon its situation, size, and the previous condition of the patient. Pedunculated or sessile, submucous and interstitial growths which have not attained too large a size to pass through the pelvis should be attacked through the vagina un-

less the patient is unmarried and the vaginal orifice undilated.

When the growth is so large as to rest above the brim of the pelvis, the uterus is occupied by multiple growths, possibly comprising every variety, or the vagina is small, the abdominal route is preferable.

Necessarily not every patient will present conditions favorable for such an operation. The uterine structure may be so extensively involved as to preclude its successful retention, or be complicated by disease of the appendages, so severe as to render restoration of function impossible.

In such cases a sacrificial operation must be done. The ideal operation is one which removes the disease and leaves an organ capable of performing its normal functions. This operation may be done more frequently than it has been practiced in the past.

It consists in an enucleation through a minimum incision, using for this purpose a blunt dissector as occupying less space and affording less danger of carrying infection to the injured tissues. The operation is done either by the vagina or through an abdominal incision. In the majority of cases the abdominal incision would be required. Small growths more or less pedunculated which have partially or completely dilated the cervix, produce but little difficulty in either diagnosis or treatment. Where the cervix is not sufficiently dilated to afford investigation and exit for the growth, a bilateral incision can be made, and the tumor rendered more accessible. Where the tumor is situated within the cavity of the uterus, with a cervix which is more or less long and undilated, the difficulty is more marked. An investigation of the situation and the size of the growth, with its relation to the uterine wall is an important prerequisite to an operative procedure. To secure such an investigation it is necessary that the canal should be dilated in order to permit the introduction of the finger. This dilation may be accomplished by repeated gauze packing (Vulliet);

dilatation with bougies (Hegar); the use of tents; or bilateral incision of the cervix, to or beyond the internal os (Péan). Bilateral incision would seem too radical a measure for a mere diagnostic purpose, and with proper dilatation will be unnecessary for the removal of some growths. The situation of the incision would be impracticable, or embarrassing in the treatment of others.

Vulliet's method is slow and not always effective. The use of bougies will cause the cervix to be badly torn before the canal is sufficiently opened to admit the finger. Dilatation by tents is the most satisfactory. Sponge tents are the most effective, but are so difficult to render aseptic and so easily infected, that their employment is not advisable. The hollow laminaria tent of good size will in the great majority of cases render digital exploration possible within twelve hours. Where the canal is insufficiently dilated with the first tent, it may be carefully cleansed and the dilatation accomplished by a second relay of tents. If the surgeon is unprepared for operation at the time of the digital exploration, this dilatation may be maintained 24 hours longer by gauze packing. Rigid asepsis must be the rule in all these procedures. After the tumor has become accessible to the touch, further procedure must depend upon its situation, size and relation. A small pedunculated tumor will in this manner be almost as accessible to manipulation as if it were situated in the cervix.

Recently I treated an unmarried woman, 35 years of age, who had suffered for over a year with irregular menstruation. The periods, which had formerly lasted from one to three days now continued from ten days to two weeks. She had frequent severe cramp-like pains during the period. The uterus was but slightly enlarged. Near the fundus could be recognized a hard mass which was slightly movable. Two laminaria tents were introduced on the 14th of January, 1898. Upon their removal the following morning, the finger could be in-

troduced to the fundus and a fibroid polypus was discovered. A tenaculum was passed on the finger and caught in the pedicle. The tumor steadied by this, was hooked by a second with which it was delivered, the small pedicle breaking. Subsequent careful exploration disclosed this to have been the only growth. The fibroid was the size of a small hickory nut. Convalescence was undisturbed.

In 1885 I saw an unmarried woman forty-five years of age, who was so ensanguinated by repeated hemorrhage that the condition had been pronounced malignant disease. Dilatation with laminaria tents revealed an egg-sized sessile fibroid situated in the posterior wall, which was delivered by enucleation after bilateral incision of the cervix. The cervical wound was sutured, the patient recovered after a prolonged convalescence due to faulty technique.

In September, 1896, a young married woman came under my observation, who had begun to suffer from dysmenorrhœa and menorrhagia after a fall from a hammock. Her health was broken and the condition aggravated by a valve lesion, causing mitral regurgitation. Owing to her constitutional condition, efforts were made by the use of ergot and subsequently thyroid extract to relieve the condition without operation, but the treatment was attended with such unpleasant results that it was discontinued. The fundus of the uterus was considerably enlarged. Dilatation revealed an interstitial fibroid the size of an egg in the posterior uterine wall. An incision was made from the uterine cavity through the intervening wall with the hope that the administration of ergot would facilitate its extrusion, but the drug was so injurious and she became so much depressed that I decided, regardless of her constitutional condition to resort to radical operation. Under chloroform the uterus was dilated with bougies, bilateral incision made through the cervix, the tumor exposed, seized with a double tenaculum and enucleated. The cavity was

thoroughly irrigated, packed with gauze, the end of which was brought out at the os. The canal was restored by lateral sutures. Convalescence was uninterrupted.

In large growths occupying the anterior wall a bilateral incision is unsatisfactory. The growth may be rendered more accessible by a circular incision through the vagina in front of the cervix and splitting the utero-vesical septum. Then a vertical incision through the anterior lip and wall of the uterus will expose the growth, which can be enucleated. If they are large, its delivery can be expedited by morcellation. Where necessary, one need not hesitate to incise the peritoneal cavity, but where the growth is situated well above the cervix, the incision need not extend through the latter but be made transverse and vertical; in other words, a T incision with the stem upwards, in this way exposing the growth and enucleating it. After the growth has been removed, the uterine incision should be closed with continuous catgut suture, the peritoneum and vagina reattached to the uterus. Occasionally an incision through the posterior lip will render the growth more accessible, and, if necessary, Douglas pouch may be cut into, the tumor or fundus of the uterus turned down, the growth enucleated, the wall sutured, the uterus replaced and the wound closed.

The abdominal route affords easy access to large and multiple fibroid growths. After opening the abdomen the uterus is raised up, walled off from the abdomen by gauze pads, and the incision made over the growth where it is most accessible, the mass seized with a double tenaculum and the enucleation completed with a blunt dissector. Bleeding vessels may be secured by hemostasis. All growths, however small, should be removed. That the growth is submucous or intrauterine need be no bar to its removal through the abdominal incision. Where possible the growths should be removed through one incision.

Alexander reports twenty-six thus remov-

ed; but the uterine structure should not be torn up unnecessarily in order to bring all the growths through a single incision, as frequently less mutilation will occur by making two or three incisions. Previous curettement and insertion of gauze drain where it is probable the uterine cavity will be opened, has been advised, but such advice is unwise because the gauze packing may result in embarrassment in determining it from a growth, and still more if it is necessary to invade the uterine cavity. All incisions should be closed with continuous catgut suture in double rows. Where the incision is deep, the last includes a good portion of the peritoneum. In one patient I removed thirteen fibroids, five of which were intrauterine. In another, nine, the largest of which was the size of a child's head. In one operation I split through the fundus of the uterus into its cavity, extending the incision some distance upon the anterior wall. The surface was re-sutured and the patient recovered without abnormal symptoms. The largest tumor, weighing two and one-half pounds, thus removed, was in a woman thirty years of age, unmarried, in whom the growth had completely taken up the cervix and had dilated the os so that the finger could reach the tumor. As the vagina was undilated its removal through that canal was not feasible. An abdominal incision was made, the uterus raised, an incision made through its posterior wall. Then with blunt dissector the small uterus was peeled off, the very large tumor, leaving a quite considerable sized cavity, which was closed by buried and superficial catgut sutures, a gauze drain having been passed into the vagina through the cervix. The woman, with the exception of an elevation of temperature of 100° on the third day, did well. This temperature soon subsided and her convalescence was subsequently uninterrupted. She had been completely exsanguinated prior to the operation, by the repeated hemorrhages.

The great advantage of this plan

of treatment is that it leaves the patient free from mutilation, and even though she should not subsequently become pregnant, the hope has not been removed and the patient is spared the unpleasant phenomena incident to a premature change of life. Of course it is important in the consideration of any plan of treatment, to consider its mortality and subsequent effect on the health of the individual. Engstrom recently reports one hundred enucleation operations with four deaths. In my own experience, the shock and constitutional symptoms have been much less marked in these operations than in those of hysterectomy.

Another important consideration is the subsequent effect upon the uterus; thus, it has been objected to this operation that there may be small growths in the wall of the uterus which are unobserved and may subsequently develop. This has not been the experience, however, in the hands of Martin and others who have practiced this method extensively. Another consideration is the influence upon subsequent pregnancy. In Engstrom's one hundred cases, four became pregnant. The difficulty in basing any statistics upon this, of course, can be readily understood when we take into consideration that of the one hundred and thirteen cases reported by Martin, forty-six per cent. were unmarried, and twenty-seven per cent. were over forty years of age. Of the four cases reported by Engstrom which became pregnant, one aborted during an attack of typhus at the fifth month, again became pregnant and aborted at the third month. She had been married seven years previous to the removal of the growth, and was never pregnant. The second had been married and yet without pregnancy. Ten intramural myoma were enucleated, from the size of a hazel nut to that of a hen's egg, besides a pedunculated fibroid the size of a duck's egg. This patient aborted at the fourth month. The third had a tumor the size of a hen's egg

enucleated from the anterior wall. Pregnancy followed and reached full term and she was delivered without difficulty. The fourth case had had three abortions prior to the operation. Intestinal adhesions to the left ovary and fundus uteri were separated in the operation, the left ovary extirpated and a walnut-sized myoma from the depth of the anterior body wall enucleated. Eight months subsequently the patient conceived and at the time of the report was three months pregnant.

Olhausen cites three cases of pregnancy following enucleation.

This operation, then, has the advantage, as we have already noted, that it does not preclude the possibility of pregnancy; that it saves the woman from the psychic symptoms resulting from the sacrifice of important organs; that it is not attended with any more, if as much, danger as would result in the extirpation of the uterus with the growths.

THE CONSERVATIVE TREATMENT OF FIBROID TUMORS BY MYOMECTOMY.

BY CHARLES P. NOBLE, M. D., OF PHILADELPHIA.

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The operative treatment of fibroid tumors has developed through several stages. In the beginning the removal of the tumor only was attempted. This method of operation was employed because it was considered the simplest and safest, and not from motives of conservatism. At a later date the uterus was removed together with the tumor or tumors, because it was believed to be a safer method of operation than the removal of the tumors alone. Still later the removal of the ovaries was employed to bring about the artificial menopause, and thus promote the involution of the tumor. This method also was employed upon the ground of the relative safety of this procedure.

In the development of the technique of these methods of operation the advantages of hysterectomy over the removal of the ovaries have become manifest, and this is the usual method of election. In a certain class of cases it has been demonstrated that the removal of the tumor itself (myomectomy) is a safer operation than the removal of the uterus together with the tumor or tumors (hysterectomy). In the recent past true conservatism—that is, the welfare of the patient, has required the selection of one or other of these methods of operation depending upon the nature of the case. The technical details of operations for fibroids have been so perfected, and the safety of these operations has been so greatly increased within the past few years, that it has become possible to advance conservatism a step forward and to view the removal of fibroid tumors from a higher standpoint. Undoubtedly the ideal method of treatment of fibroid tumors is to remove the tumors while retaining the organs of generation and the functions of menstruation and procreation. This must be accomplished by broadening the field of myomectomy and restricting that of hysterectomy. The object of this paper is to discuss the present status of myomectomy, and to advocate such changes in practice as will render this conservative operation applicable in many cases in which it is now necessary to resort to hysterectomy.

The first myomectomy was performed by Amussat (Amussat. *Memoir upon the Pathological Anatomy of Fibrous Tumors of the Uterus, etc.*, Paris, 1842), June 11, 1840. The tumor was a submucous fibroid in the early stages of the process of being extruded from the uterus by the contractions of that organ. Amussat performed his second operation in 1841 (Loc. cit. page 41). Both tumors were removed per vaginam. They were not only the first myomectomies, but aside from the removal of fibroid tumors which had become polypoid and extruded into the vagina, they were the first

fibroid tumors to be removed. In these operations there was no question of conservatism in the modern sense of the term. Myomectomy was performed instead of hysterectomy simply on the ground of the relative safety of the two operations. In fact hysterectomy was not considered.

Washington L. Atlee was the next surgeon to perform myomectomy, and the first systematically and continuously to advocate the removal of these tumors upon scientific grounds. Atlee's first myomectomy appears to have been done for a pedunculated fibroid tumor, which was removed by celiotomy, August 28, 1844, with a diagnosis of ovarian tumor. This diagnosis was corrected at the autopsy several years subsequently, when both ovaries were found in situ (Atlee. *Ovarian Tumors*, page 249). Atlee's first myomectomy performed per vaginam is recorded in his Prize Essay (*The Surgical Treatment of Fibrous Tumors, etc.*, Trans. Amer. Med. Asso., 1853, page 559). The operation was begun May 8, 1845. The tumor was removed piecemeal at different times. The patient died July 16, of pneumonia. Atlee continued to operate per vaginam and by abdominal section, and in 1853 reported fourteen cases (Loc. cit.). A study of Atlee's very full report of these cases is most interesting, and serves to increase one's respect for this great man, who was even more a pioneer in the surgical treatment of fibroid tumors than in ovariectomy.

It is beyond the scope of this paper to refer to numerous surgeons who advanced the operative treatment of fibroid tumors in its early stage. It must suffice to refer to a few of those who have aided in the perfection of myomectomy. Emmet working over many years perfected a method of removing intrauterine fibroid tumors by making traction upon the tumor, and removing the tumor by cutting it up with scissors. This method was probably the basis from which developed the modern method of *morcelement* as applied to operations for

fibroids. There is the essential difference, however, that while Emmet used the method in the performance of myomectomy, the modern French school have used it in the performance of hysterectomy.

A. Martin, of Berlin, in 1886 (A. Martin. Diseases of Women, Amer. Edition, 1890, page 280), performed myomectomy for an intra-uterine tumor by the abdominal route. He states: "The great tumor was extracted from above after laparotomy and incision of the uterus. Its bed was cleansed and the uterus sutured. The union and involution of the uterus proceeded in a thoroughly satisfactory manner." This is probably the first case in which a myomectomy was done by the abdominal route for an intra-uterine tumor. Numerous pediculated tumors had been removed by abdominal section, and as early as 1853 Atlee had removed a sessile subperitoneal fibroid tumor by myomectomy (Loc. cit., page 548). Martin has been a consistent advocate of myomectomy for intramural fibroids upon the ground of conservatism. His advocacy of myomectomy had less weight than it otherwise would have had because the results which he obtained were less favorable than those obtained at the same time by the adherents of hysterectomy.

No other surgeon can be specially singled out as having advanced the operation of myomectomy, but with the perfection of abdominal surgery it became possible to substitute myomectomy for hysterectomy in many cases, without increasing the primary mortality of the operation, and with the great gain of conserving the organs of generation. Numerous operators, especially in this country and in Germany, embraced the opportunity to extend the field of conservative surgery. At the present time much thought is being given to the best methods of broadening the indication for myomectomy. Early operation for fibroid tumors heretofore has been advocated in order to lessen the mortality of hysterectomy, the basis of its advocacy being that

hysterectomy has a lower mortality than fibroid tumors when these are not removed by operation. In estimating the comparative mortality of hysterectomy and fibroid tumors without operation, the fact must not be lost sight of that fibroid tumors are very frequently complicated by other morbid conditions, such as ovarian tumors, pyosalpinx, inflammatory disease of the uterine appendages, necrotic degeneration of the tumors, cystic degeneration, sarcoma, calcareous degeneration, and in a small percentage of cases carcinoma of either the body of the uterus or of the cervix is present. The mortality of the complications alone in a given number of cases is greater than the mortality of hysterectomy, leaving aside the inherent mortality due to the tumors themselves.*

An even stronger ground for the advocacy of early operation is the fact that myomectomy can be much more frequently substituted for hysterectomy. In my own work almost exactly twenty per cent. of the operative cases have been dealt with by myomectomy.

Certain considerations control the indication for myomectomy. The primary pur-

*In a study of my own experience in fibroid tumors ("The Development and the Present Status of Hysterectomy for Fibromyomata," Trans. Amer. Gynec. Soc., 1897) among sixty-six cases of fibroid tumors for which hysterectomy was done, the following complications were met with.

Cystic degeneration.....	3
Sarcomatous degeneration	3
Calcareous degeneration	3
Necrosis of the tumor	2
Bilateral hydrosalpinx	4
Unilateral hydrosalpinx	4
Bilateral pyosalpinx	4
Unilateral pyosalpinx	2
Unilateral ovarian cyst.....	4
Bilateral dermoid ovarian cyst	1
Parovarian cyst	1
Ovarian cyst, ruptured tubal pregnancy, appendicitis	1
Intraligamentous development of the tumor...	6

I reported also three cases of cancer of the cervix complicating fibroid tumors in which hysterectomy was not performed. Also, of seventeen fibroid tumors which had been removed per vaginam, five were necrotic. In my experience about seven per cent. of the fibroid tumors upon which I have done operations have been necrotic.

pose of myomectomy is the conservation of the functions of menstruation and procreation, therefore it follows that the age of the patient and the desirability of child-bearing are the main factors in determining the indication for this operation. In women who are approaching the menopause nothing is gained by substituting myomectomy for hysterectomy. Aside from these relative indications the nature of the growth is the absolute indication for or against myomectomy. Typical cases for myomectomy are those in which but a single tumor is present, and favorable cases are those in which the number of tumors is small. When the number of tumors is great, the desirability of the operation becomes less because of the greater technical difficulties of the operation and the increased risk attending it. When the uterus is studded with fibroid tumors, the operation is contraindicated, because of the impossibility of removing all of the growths and the probability that some of those remaining will continue to grow and require subsequent operation.

Myomectomy may be performed either by means of the abdominal or the vaginal route. The cases best suited for the abdominal route are subserous and intramural fibroid tumors. When of large size, submucous fibroid tumors also are best attacked from above. The essentials for success in myomectomy are perfect asepsis and hemostasis, in addition to a good surgical technique. Operators whose facilities do not afford these requirements should not undertake the operation. The technique of the operation is comparatively simple. The capsule of the tumor is incised and the tumor peeled out from its bed. When the capsule is large, this must be trimmed so as to facilitate the closure of the wound. The wound is then closed by continuous catgut suture, as many tiers of sutures being used as necessary to obliterate the bed of the tumor and to secure perfect hemostasis. The peritoneal covering of the uterus is closed in the usual manner. When the

tendency to oozing is marked, the use of mattress sutures is of great service. The ligation of one or more of the four arterial trunks supplying the uterus is admissible when otherwise hemostasis is impracticable. The use of catgut prepared by the cumol method has given me much satisfaction.

The vaginal route is best adapted to the removal of submucous fibroids, cervical fibroids, and small subserous fibroids situated upon the anterior wall of the uterus. This latter class of fibroids are best attacked by anterior colpotomy. Through the vaginal wound the uterus is anteverted into the vagina, the tumor enucleated, and its bed sutured as in abdominal myomectomy. The vesical peritoneum is then sutured to the uterus above the wound in the uterus, and the vaginal incision closed. Cervical fibroids can be reached by splitting the cervix and enucleating them. Depending upon the location and size of the tumor, the method of operation must be varied in different cases. In some of the cases the anterior lip of the cervix may be split antero-posteriorly; in others, the posterior lip. In a number of cases I have split the cervix, enucleated the tumor, sutured its bed, and then closed the incisions in the cervix. Submucous fibroids may be reached in two ways. The usual method, and the one which I have employed, is to split the cervix bilaterally up to and beyond the internal os. With care it is possible to avoid wounding the uterine artery or vein. This accident has never happened in my cases. Should it happen, the vessels would require ligation as in vaginal hysterectomy. After splitting the cervix the cavity of the uterus can be dilated with dilators, and the tumors seized with volsellum forceps. If polypoid and of moderate size, it should be drawn down to the pedicle and divided with scissors. When of larger size or not polypoid, the capsule must be incised and the tumor enucleated with the finger or other blunt instrument. Tumors of large size are best delivered by

traction and morcellation, in accordance with the method advocated by Emmet. The capsule of the tumor left after its removal should be trimmed so far as possible with scissors. In my experience hemorrhage after the removal of fibroid tumors per vaginam has been trifling; but should it prove troublesome, it should be controlled by packing the uterus with gauze. It is conceivable that it might be sufficiently troublesome to require hysterectomy. After the removal of the tumor the cavity of the uterus should be lightly tamponed, and the cervical incision united with catgut sutures reinforced with silkworm gut, so that the gauze may be removed without risk of tearing open the cervix.

Anterior colpotomy followed by splitting of the anterior wall of the cervix and uterus up to and, if necessary beyond the reflection of the vesical peritoneum, has been recommended as affording ready access to submucous fibroid tumors. I have never employed the method, but theoretically it should afford ready access to intrauterine tumors. My own experience with splitting the cervix bilaterally has been quite satisfactory, but it is quite apparent that the risk of wounding the uterine vessels is greater by this method than by anterior colpotomy. On the other hand, anterior colpotomy presents the objection that there is more likelihood of invading the peritoneal cavity by this method.

My own experience with myomectomy embraces twenty-five cases, in eight of which the operation was done by abdominal section, and in seventeen per vaginam. All of the patients made good recoveries. In none of the cases so far as known have fibroid nodules developed since the operation. Three of the patients are known to have become pregnant and given birth to children since their operations. One patient gave birth to twins.

The results of the myomectomy in my hands have been most satisfactory. The primary mortality has been nil. The re-

covery from operation in almost all cases has been uncomplicated, and the ultimate result of the operation has been satisfactory in every case. A number of the patients were extremely ill when operated upon, due to long continued hemorrhages, and to infection or sloughing of the tumor brought about by the efforts of the uterus to expel the tumor *per vias naturales*. Three of these patients were dangerously ill from anemia and septicemia. It cannot be expected that a nil mortality will be obtained in a large series of cases of myomectomy, but the mortality should be lower than that of hysterectomy for fibroids. Cases suitable for myomectomy on the whole are more favorable for operation than the average of cases of fibroid tumor. Cases suitable for hysterectomy include all the cases having serious complications. Cases suitable for myomectomy are seldom in desperate condition, the exceptions being those suffering from severe anemia due to long continued hemorrhages, or to infection of intrauterine fibroid tumors.

In conclusion, I wish once more to express the opinion that the next advance in the treatment of fibroid tumors will be the general adoption of early operation, and the more general substitution of myomectomy for hysterectomy as being the most conservative treatment of these growths.

DISCUSSION ON THE PAPERS OF DRS. MONTGOMERY AND NOBLE.

Dr. Israel Cleaver, Reading:—I would like to hear one of the gentlemen give some differential criticism on the relative effects of myomectomy and the old fashioned spaying operations, for certainly some tumors disappeared under the latter treatment and the question came up in my mind as to whether it should still be employed, and if so in what cases should it be given preference over myomectomy.

Dr. G. B. Massey, Philadelphia:—My excuse for entering into this discussion is the title of the first paper, the "Conservative Treatment of Fibroid Tumors of the Uterus." I listened very attentively but I did not hear anything "conservative" which did not involve the opening of the abdominal cavity. I submit that this is not con-

servative treatment in a variety of tumors where there is such a low mortality as fibroids. As a matter of fact the deaths resulting from fibroid tumors are almost invariably deaths resulting from operations for their removal. It is very natural of course, not to expect a discussion of conservative plans of treatment from surgeons that did not involve surgical interference. To expect this would be as unnatural as to expect surgeons to tell us all we ought to know about non-surgical methods of treatment. I do not as an individual like to be placed by a colleague in the position of either lying or of being ignorant of diagnosis in these cases, yet it is surely within the knowledge of the gentleman, who said that no tumors had ever disappeared without surgical interference except in cases of mistaken diagnosis that I have reported twelve cases that have disappeared, but I do not wish to have this matter rest on my truthfulness and skill alone. I would ask the reader of the paper his opinion as to the truthfulness and diagnostic acumen of that great leader in his own work of surgical extirpation of the uterus,—Keith. He should know that Keith reported three tumors that had disappeared entirely with the Apostoli treatment.

In a book that was published by the Keiths in 1893, out of 106 cases, three and possibly four had disappeared. How many of the remaining tumors have disappeared since I do not know, but the bulk of them were then reported as practically cured. Keith predicted that the Apostoli method had come to stay and that it would find its way over the whole world, and this was when he stood as the foremost operator in the world, with the largest number of cases and smallest number of deaths from the surgical treatment of fibroids.

Dr. John C. DaCosta, Philadelphia:—Some years ago, Keith published a paper reporting thirty-five hysterectomies with a mortality of two cases, less than six per cent. He then stated that he would do no more hysterectomies until he had exhausted every other means of treatment. Now there are very few operators in this country who would not be glad to have as low a mortality as two out of thirty-five such cases as Keith had, none of them weighing under fifteen pounds. He then tried electricity, but we do not hear that he has persisted in it. I have employed electricity in some cases when the patients absolutely refused operation. In one case the tumor seemed to diminish and the woman became quite comfortable.

As we are speaking of conservative treatment it might be well to mention the thyroid extract. I have tried it in some cases with apparent benefit.

In one of the cases the thyroid extract did not seem to diminish the size of the tumor but in all it lessened very materially the weight and dragging down feeling, and in all reduced the patient's weight, (thinned them down). Although I have not much confidence in electricity in these cases, still I consider it worthy a trial where the patient absolutely refuses an operation.

In regard to the conservative treatment spoken of in Dr. Noble's paper, I think the success of this method will depend very largely upon the condition of the uterus. If the fibroids are small, few, and on the outside of the uterus, the operation is all right, but if you try to remove large interstitial tumors in that manner you will very likely get into trouble from hemorrhage which may not commence for several hours or even days after the operation. I do not think I should employ this method very much. In some cases after an operation of this kind, operators have had to do an hysterectomy to prevent trouble. I say that we must be very careful in selecting the tumors to remove in this way.

Dr. E. E. Montgomery, Philadelphia:—As my paper exceeded the time limit I did not reach the more conservative methods of treatment, but it was along the line treated by Dr. Noble,—myomectomy and enucleation.

Now as regards castration. It is true that castration is sometimes succeeded by the disappearance of the tumor. I have seen cases in which fibroid tumor has disappeared after the removal of the ovaries. In most cases, however, I believe that this can be avoided,—that the tumors may be removed and the ovaries and uterus preserved. I do not care to enter into a discussion with Dr. Massey on the merits of the Apostoli method. If Dr. Massey has observed an entire disappearance of tumors under this treatment, I am glad to hear it. It has not been my observation from the cases which I have seen treated in this manner. In many of the reported cases which I have read, this treatment has been followed by relief in some cases, but with little decrease in size. The question of time in many of these cases is a very important one. If an individual is obliged to work for a living, to support herself, and perhaps support others, the question of being treated for two or three years is a very serious matter, especially if she can be relieved without danger by a much shorter method of treatment. With regard to the thyroid extract I have seen a number of reports speaking very favorably of it. I have tried it in a few cases, but as it produced such distressing nervous symptoms, I had to discontinue it. During the time I used it I have never

seen any effect produced on the size of the tumor.

Dr. Chas. P. Noble, Philadelphia:—I think the word conservatism requires a definition. As I look upon conservatism it means the best result to the patient with the least danger,—conservatism to the best interest of the patient. When I first began to operate on fibroid tumors, electricity was being used by a great many, but we hear very little about it to-day. I was not prejudiced in favor of it at that time because there came under my notice a case treated by Dr. Massey that died of septic peritonitis. There also came under my notice two other cases which died under the treatment of pelvic suppuration. Whether or not they had fibroid tumors I do not know. I do not know whether it was the electricity or a mis-diagnosis, but at any rate both patients died. The journals also soon began to report bad results from electricity, so I had no desire to follow in that line of treatment. I think with reference to Dr. Keith that we should remember that he said nothing about this method of treatment until he was old and broken down in health, and very naturally he looked for a method of treatment which would not require the surgical skill of his younger days.

So far as the risk of myomectomy is concerned, I have performed twenty-five operations, all recoveries. I am sorry to say that I have not as good results from hysterectomy. In my myomectomies I had no sepsis, no hemorrhage, no trouble of any kind. Some of the operations were performed eight or nine years ago and there has been no recurrence. That is one slight objection to myomectomy. Sometimes there will develop a small tumor subsequently, but that did not happen in any of my 25 cases.

THE IMPORTANCE OF THE EARLY RECOGNITION AND TREATMENT OF ACUTE INFLAMMATORY GLAUCOMA.

BY CLARENCE A. VEASEY, A. M., M. D., OF
PHILADELPHIA.

Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic; Demonstrator of Ophthalmology, Jefferson Medical College; Chief Clinical Assistant to the Ophthalmological Department, Jefferson Medical College Hospital; Consulting Ophthalmologist, Philadelphia Lying-in Charity, etc.

The importance of the early recognition and treatment of acute inflammatory glaucoma is universally acknowledged among

physicians who have to do with ophthalmic work. But that some of us fail to recognize its importance is evinced by the fact that occasionally patients are seen in whom the acuity of vision has been much reduced, or even totally abolished, because the disease had existed for some time before it was sufficiently recognized for the proper treatment to be instituted, or because of the use of the mydriatics, either being an almost fatal error as far as the patient's vision is concerned.

It is just as important that the general practitioner be thoroughly familiar with the symptoms and treatment of this condition as it is for the ophthalmic surgeon, because in the majority of instances he is the first to be applied to for relief; and the condition is one that if not quickly recognized and the proper treatment instituted the patient's visual acuity usually suffers great damage.

The writer does not propose to discuss the many theories that have been suggested as to the etiology of the affection. Suffice it to say that whatever the primary cause may be it is believed that the mechanical cause is the blocking up of that angle of the anterior chamber known as the "filtration angle" and that it is kept up, to a considerable extent, by the crowding into it of the iris.

A number of prodromes, by no means constant, are occasionally found to precede the appearance of the glaucomatous attack. It is stated that a desire to change one's reading glasses more frequently than is usual should be regarded with suspicion. Attacks of "foggy vision," though lasting for a few moments only, perhaps accompanied by slight injection of the eye ball, and the appearance of a halo of colors around artificial lights are sometimes met with and are sufficient in themselves to cause a very careful examination to be made of the eyes and more severe symptoms watched for, and if possible, guarded against.

The attack of acute inflammatory glaucoma usually presents a combination of symp-

toms so thoroughly characteristic of the affection that with the exception of a few extremely rare instances it should never be mistaken for any other disease. Appearing as it does very frequently at night, and there seems to be a marked tendency to occur in the latter part of the night or early morning, there is ordinarily excruciating pain throughout the side of the head which is sometimes accompanied by nausea and vomiting. The extremities may be cold or there may be even flushing with slight fever. These symptoms are apt to cause the uninitiated to suspect some severe constitutional origin, but if the eyes be carefully inspected there will be found some swelling of the lids and some edema of the subconjunctival tissue. The eye ball will be intensely injected, and the cornea will in most instances be hazy and partially anæsthetic. The appearance of the latter can be compared to a piece of cold glass, the surface of which has been breathed upon, and if its sensibility be tested by widely separating the lids and touching it with a whisp of absorbent cotton, it will be found that the impulse to close the lids that exists in normal eyes is entirely absent, or not so decided as usual, according to whether total or partial anæsthesia is present. The aqueous humour is more or less turbid and the anterior chamber as a rule is much more shallow than normal. The pupil, which is one of the chief points of difference between this and certain other affections with which it is mostly confounded, is dilated either moderately or widely, and if it reacts at all does so extremely sluggishly. The iris is discolored, and if the tension of the eye ball be tested by palpation through the closed lids with the index fingers of both hands, it is found to be elevated; that is, the eye ball is harder than its fellow, or if the latter be also affected, harder than an eye the tension of which is known to be normal. The patient's visual acuity is greatly reduced, oftentimes only the ability to distinguish between light and darkness remaining, and if an attempt be made to

examine the interior of the eye with the ophthalmoscope it is found impossible to get any view of the fundus.

If no treatment be instituted these symptoms may last from a few days to a few weeks, and when the eye recovers it is found that the visual field is somewhat contracted, the iris less mobile, central vision less acute, the optic nerve slightly cupped and the tension more or less elevated. It is rare for a patient to become permanently blind in the first attack; but experience teaches that the attacks recur with increasing frequency, each one leaving the vision worse than before, until total blindness ensues, resulting in the condition known as glaucoma absolutum.

The two diseases with which acute inflammatory glaucoma is most likely to be confounded are acute conjunctivitis and acute iritis, and if the treatment of iritis be instituted in a case of glaucoma, or vice versa, much harm may, and probably will result therefrom. Acute inflammatory glaucoma presents a sudden onset, a rapid reduction of the visual acuity, a hazy and more or less anæsthetic cornea, a widely dilated pupil responding very sluggishly, if at all, to the various reactions and elevated tension. Acute iritis presents a gradual onset, not so marked a reduction of vision, as a rule, as in glaucoma, the cornea is not so hazy nor anæsthetic, the pupil is contracted and if the iritis has existed for a short time the iris is attached to the capsule of the lens, the tension remaining unaffected. Acute conjunctivitis presents no marked reduction in the visual acuity, no severe pain as is found in iritis and glaucoma, the pupil reacts promptly and the tension is unaffected.

The treatment of acute inflammatory glaucoma is of two kinds, medicinal and surgical. The medicinal, if employed alone, is usually of temporary benefit only, surgical intervention being required to check the progress of the disease. Leeches applied to the temple and hot fomentations to the closed lids assist in reducing the inflam-

mation and alleviating the pain, though if the latter be very severe hypodermatic injections of morphine may be required. Rest in bed if the patient be in a weakened condition, the administration of nourishing diet and stimulants if required, darkening of the room if there be much dread of light, and the use of smoked glasses when out of doors are measures to be advised. The internal administration of salicylate of sodium in large doses also seems to be of benefit in some cases.

The object of primary importance is of course to reduce the intraocular tension as rapidly as possible and this may be attempted by medicinal or surgical measures. It seems to be good practice to instill into the eye a drop or two of a solution of eserine (about two grains to the ounce), or of pilocarpine (about four grains to the ounce), every half hour for six or eight hours, using at the same time a 4 per cent solution of cocaine to assist in relieving the pain and to render the iris more susceptible to the action of the myotics, and if at the end of this period the pupil remains dilated and the tension still above the normal it is better to adopt some surgical intervention at once. If on the other hand the pupil responds to the action of the myotic and the tension becomes normal it is not necessary to operate until the attack has subsided.

The operations that are performed for the reduction of intraocular tension are paracentesis of the anterior chamber, anterior sclerotomy, posterior sclerotomy and iridectomy. The first of these is a temporary measure, but each of the last three has advocates who claim that it is curative. The writer is one of those who believes that a carefully performed broad peripheral iridectomy is the best of the measures in the majority of cases and that it should be performed during the inflammatory stage if drugs fail to produce amelioration of the symptoms. If, however, the symptoms are improved by the use of the myotics, in conjunction with other medicinal measures, and

the eye recovers from the attack, the operation should not be performed until the eye becomes entirely quiet. That it should be performed, however, at this time, both as a preventative and curative measure, has been proved by thousands of cases.

Massage of the eye ball through the closed lids and the application of galvanism have each their advocates, but the consensus of opinion seems to be in favor of some one of the surgical procedures, and preferably iridectomy.

DISINFECTION OF HANDS.

This subject, which is of such great importance in clinical surgery, has been carefully studied by Weir, whose investigations led him to the following conclusions:

1. That the solutions of corrosive sublimate are unreliable.
2. That such disinfection is far best applied, and in the order named, by the use of nascent chlorin, alcohol, or potassium permanganate.
3. That chlorin is satisfactorily evolved by the conjoined use of moistened chemical chlorinated lime and crystallized sodium carbonate.
4. That these three procedures, the chlorin treatment is least hurtful to the hands, alcohol the most trying.

The author has devised a simple, easy and inexpensive, yet efficient method of obtaining the sterilization by nascent chlorin. After the usual scrubbing with soap and water, and the use of green soap, and cleansing the periungual spaces, one or more large crystals of carbonate of sodium (washing soda) are taken in one hand and covered with about a tablespoonful of bleaching powder (chlorinated lime), and enough water is added to make a thin paste, which at first feels warm, and from which fresh chlorin gas comes. This is rubbed for two or three minutes over the hands, nails and forearms until a cream paste is formed, or until the chemicals impart a cool sensation or until the rough grains of bleaching powder have mostly disappeared, when the hands are washed in sterile water.—(Boston Med. and Surg. Journal.—Philadelphia Polyclinic.)

... THE ...

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**COMMUNICATION FROM THE CHAIRMAN
OF THE COMMITTEE ON SCIENTIFIC
BUSINESS.**

Under the head of "Official Transactions" on another page, will be found a communication from Dr. S. S. Towler, chairman of the Committee on Scientific Business. All members of the State Society or new delegates, intending to read papers at the coming meeting at Johnstown, should read the notice and be guided by the requests made. Many physicians hesitate to write papers because they have no startling theory to promulgate or to lay before the profession some newly discovered truth. Theoretical papers have their place and occasionally some new fact may be brought to light, but aside from these there are many aspects of the science and practice of medicine that merit attention. Few physicians but what may contribute from out of their yearly experience something helpful to their brother physicians, and to the sick. New and improved methods of surgical procedure, the description of heretofore unrecognized therapeutic effects of new and old remedies, based on clinical experience, are of perennial interest. While the ten-minute

rule adopted by the society excludes comprehensive technical papers, the teaching force embraced in the society's membership should find opportunity to present to the notice of the active practitioner, the annual progress made in the various departments of medicine and surgery. In this line we would suggest the need of papers on bacteriology, with special reference to toxins and antitoxins, immunity, and contagion. K.

**THE JOURNAL AND THE GROWTH OF
COUNTY SOCIETIES.**

When, at the meeting of the Medical Society of the State of Pennsylvania, at Pittsburgh, in May, 1897, it was determined to issue the transactions in the form of a monthly journal, the experiment was looked upon by many as presenting great obstacles. By some it was thought that the bound volumes of transactions were more desirable as records of the Society, and that their superiority over monthly editions was marked. That this is true as far as accessibility of the records is concerned may perhaps be admitted, but even that advantage is but slight, for reference to the index at once overcomes any difficulty in that line. What, it might be asked, are the special points in favor of the Journal? First and foremost, it keeps the state society alive and before the members of each county society throughout the year. It offers opportunity for reports of meetings of county societies, and for the publication of current official business without additional expense. By reason of its periodical appearance members are kept in mind, better, of their duties to the society. It gives a much larger circle of readers for the papers read at the annual and monthly meetings. That its influence in the society has been for good, can, we believe, be demonstrated mathematically by reference to the growth in membership since May 1897. We do not, however, forget that other influences for good have been at work and notably that exerted by

the Committee on Increase of Membership and Extension of Polyclinic Teaching. As a result of this committee's labors several new county societies have been established and new interest awakened in others through its system of providing lecturers from a distance to the outlying societies. Activity and prosperity in county societies is a sure indication of growth and interest in the state society and the bond between the two bodies should be and doubtless is strengthened and drawn closer by the Journal.

The membership in the various county societies as given in the transactions of May, 1894, was 2538. During 1895 but few accessions were made. In 1896 the total membership amounted to 2,814, a gain of 276 members in two years. The next census taken October, 1897, showed a total membership of 2,978, a gain of 164 members. This period represented the last year of the transactions in bound volumes, and five months under the regime of the Journal. Finally the report of Dr. C. L. Stevens, Chairman of the Committee on Increase of Membership, etc., gives the present membership in the several county societies at 3,334, (see page 336, November issue), a gain of 356 for one year. K.

CHOLESTERIN IN THE EYE.

Recent reports by Oliver and Risley of cases in which cholesterol was present in the eyeball direct renewed attention to this interesting subject. As is well known, cholesterol is usually the chief constituent of gall-stones, a majority of which according to Osler contain from 70 to 80 per cent. of this substance either in the amorphous or in the crystalline form. It is obtained from gall-stones by dissolving them in boiling alcohol. On cooling, the cholesterol crystallizes in the form of thin transparent rhomboidal plates which seem greasy to the touch. It is a monatomic alcohol having the formula $C^{26}H^{44}O$, and is insoluble in water but dissolves in boiling alcohol, in

ether, in chloroform, and in the volatile and fatty oils, and is kept in solution in the bile by means of the biliary salts.

Cholesterin is widely distributed throughout the vegetable world, being found in peas, beans, indian corn, olives, almonds, jequirity, etc.

It has been observed in pathological collections like hydrocele and encysted tumors; but it is also seen in the blood corpuscles, the liver, the spleen and in the sebaceous, sweat and mammary glands. It is found regularly in the nervous system—the brain, spinal cord and nerves.

Crystalline particles presenting a lustrous appearance had been noticed in the eye early in the present century, but the nature of these bodies was first demonstrated by Baker and Stout in 1847.

Crystals of cholesterol are not infrequently seen in the crystalline lens, especially in the later stages of hypermature cataract. According to Fuchs the presence of these crystals constitutes one of the dangers in the extraction of such cataracts. He relates a case in which, after discission of an over-ripe cataract, a large quantity of cholesterol crystals poured into the anterior chamber, settled to the bottom like a hypopyon, and in his opinion produced a severe attack of irido-cyclitis. It would seem probable that thorough irrigation of the anterior chamber might in such a condition prevent a disastrous result.

The most frequent and perhaps the most striking intra-ocular manifestations of cholesterol are seen in the vitreous humor which in these cases, owing to degenerative changes, is generally more than normally liquid. Such a condition is known as *synchisis scintillans* or sparkling synchysis and presents a very brilliant ophthalmoscopic picture, especially when a concave mirror is used. If the eye is repeatedly and rapidly rotated upward and downward, and then suddenly stopped looking directly forward, a shower of glittering, golden-tinted crystals is observed falling slowly in the vitre-

ous. The writer has on two occasions, while operating for cataract, seen multitudes of these sparkling bodies escaping along with very thin vitreous through the incision, and this before any attempt was made to incise the lens capsule.

Shining crystalline particles are occasionally seen in the retina. That these are ever cholesterin crystals has been doubted; but a case related by Schöbl, in Norris and Oliver's System of Diseases of the Eye, makes it probable that the doubt is not well founded. The eye ground in this case was studded with pigment patches of different sizes and of every variety of shape interspersed with yellowish plaques and with glittering dots and points and "presented an appearance not unlike that of a Turkish carpet." In addition crystals of cholesterin were present in the vitreous in abundance, apparently justifying Schöbl's conclusion that the glistening points in the retina consisted also of cholesterin. When these crystals are found either in the retina or in the vitreous, such visual impairment as may be manifest seems due, not to the cholesterin, but to degenerative changes in the retina.

J. A. L.

EDITORIAL NOTES.

TO REMOVE THE ODOR OF IODOFORM.

Dr. Edwin Ricketts states, Cincinnati *Lancet-Clinic*, a teaspoonful of vinegar rubbed on the hands after thorough cleansing with soap and water, "does away promptly with the very disagreeable odor" of iodoform.

K.

NEW EDITOR OF THE INTERNATIONAL MEDICAL MAGAZINE.

With the October number, Dr. Boardman Reed assumed editorial charge of the *International Medical Magazine*, of Philadelphia. Dr. W. L. Pyle, his predecessor, continues his connection with the publication, as head of the department of ophthalmology.

K.

ANNUAL MEETING OF THE WEST BRANCH MEDICAL ASSOCIATION.

The regular annual meeting of the West Branch Medical Association will be held in the Hotel Updegraff, at Williamsport, on Tuesday, January 9, 1899, at 10 o'clock, A. M.

J. M. Corson,
Secretary.

ACTING SURGEON, W. G. WEAVER'S DESCRIPTION OF THE CONDITIONS AT CAMP THOMAS.

It is with pleasure that we refer to the communication of Dr. W. G. Weaver, regarding the conditions of Camp Thomas during the late Spanish War. Dr. Weaver's previous connection with State military organizations qualified him well to recognize the needs of the mobilizing camp, and his sound judgment and clear insight enabled him to draw rational conclusions as to the defects that existed.

K.

THE SEMI-CENTENNIAL ANNIVERSARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY

The invitation to participate in the semi-centennial anniversary exercises of the Philadelphia County Medical Society, to be found under the head of Communications, should elicit a hearty response. Such gatherings tend to strengthen the union between the various county societies and also to make the State society the entity which it should be in its highest usefulness.

K.

COTTON SEED OIL.

Twenty-eight million gallons of cotton seed oil are annually produced in the Southern United States and seven-eighths of this, says J. Jacobs, in a paper read before the American Pharmaceutical Association, find its way into "refined lard" and salad and cooking oil. As an article of diet it is probably of equal nutritive value as compared with animal fats, and, without a doubt, much cleaner from a practical, as well as an esthetic point of view.

K.

DELAY IN THE APPEARANCE OF THE JOURNAL.

Just as the November Journal was ready

to go to press, a printers' strike occurred in Pittsburg, and the result was a delay of a number of days in the appearance of the Journal. Any delay in this month's issue may be attributed to the same cause. No one can have the rights of the laboring classes more at heart than the writer, but justice demands that employers also be accorded rights, and hence we deprecate strongly the common interference of strikers with the privilege of employers to engage new workmen, when the old ones give up their positions. We should be interested to observe the attitude of the labor agitators should physicians refuse to work more than a certain number of hours a day and at the same time declare that *no one else should be employed*. K.

THE END OF THE PHILADELPHIA POLYCLINIC.

The *Philadelphia Polyclinic*, one of the brightest and most ethical medical journals that has come to our exchange table ceases to exist with the end of the year. It has been absorbed, or rather its subscribers have been annexed by the *Philadelphia Medical Journal*. It is a lamentable fact that the profits of medical journalism come mainly from questionable advertisers and to ignore these imposes a labor of love and self-sacrifice on the part of the publisher which few men are capable of carrying on indefinitely, especially if they have given hostages to fortune in the shape of offspring whose needs demand more lucrative employment.

We shall miss the *Polyclinic*—miss its bright editorials and its general pleasing appearance, its ethical stamina and independence. K.

ANNUAL RECEPTION OF THE PITTSBURG ACADEMY OF MEDICINE,

At the annual reception of the Pittsburg Academy of Medicine, held at the Hotel Schenley, December 2, a large number of representative physicians of Western Pennsylvania listened to an address by Dr. Nicholas Senn, on "Empyæma at Camp

Thomas." The address showed Dr. Senn to be much more than the surgeon, in which character he is best known; it showed him to be a physician in the broadest acceptance of the word—a man of unbounded powers of observation and ability to apply and use the facts as recognized. We hope to reproduce the address in full in the next issue of the Journal, feeling sure of a hearty appreciation by all readers.

The reception itself, like those held in former years, was perfect in its arrangements, the enjoyment and satisfaction of both guests and hosts being in marked evidence. K.

HARRISBURG ACADEMY OF MEDICINE, REPORT OF ITS THIRD ANNIVERSARY.

On the evening of December 2, this flourishing society held its anniversary exercises in the hall of the Academy's home, on North Second street. A short business session was presided over by president F. W. Coover, who introduced the speaker of the evening, Dr. Judson Daland, of the faculty of the University of Pennsylvania, who delivered a lecture upon "Some of the Results of the Decomposition of the Intestinal Contents." After a division and classification of the subject, Professor Daland called attention to the causes of such decomposition, laying especial stress upon the generation of ptomaines such as neurine, the xanthin products, putrescine and the probably endless list of non-isolated ferments. Biliousness was considered as a typical instance of such auto-toxic states. Persistent headache was referred to as a frequent concomitant, and minute details were given of several interesting cases, the marked features of which were the frequent finding of indican in the urine, the loss of hæmoglobin in the blood and the fact that control cases, upon similar diet to those affected, voided but little indol, skatol, putrescine, or cadaverine as compared to the patients under observation.

The main point in treatment is to keep the bowels open. The lecturer uses nitrate

of strychnine, minute, but frequently repeated doses of calomel and the tablets of the extract of cascara sagrada in doses of 2 to 15 grains, gradually reducing dose according to indications. Abdominal massage, exercise, and the free use of water and acid fruits, entero-clysms, and a liberal dose of phosphate of soda administered in hot water an hour before breakfast and followed by vigorous exercise, were all commended.

At 9 o'clock, the sixty or more physicians present adjourned to the Commonwealth Hotel, where an excellent menu was served. The toastmaster, Dr. J. Landis Seitz, called upon Drs. E. H. James, J. F. Culp, and Thos. S. Blair, who in humorous and pithy manner, responded to the following toasts: "The Social Advantages of the Academy," "Professional Observations Abroad," and "The Young Physician."

After some extempore banter and a social smoke, the hour of midnight brought this pleasant occasion to a close.

T. S. B.

Official Transactions.

THE SCIENTIFIC PROGRAM OF THE JOHNS-TOWN MEETING, MAY 17, 18 AND 19, 1899.

COMMITTEE ON SCIENTIFIC BUSINESS.

Dr. Adolph Koenig.	Dr. C. W. Dulles,
Dr. T. B. Appel,	Dr. S. S. Towler,
Dr. H. A. Hare,	Chairman.

The Chairman of the Committee on Scientific Business, will receive applications, for place on the Scientific Program, from the date of this notice until April 1, 1899. After that date, the lists will not be open to any applicants. Those wishing place, are urged to not put the question off to a late date, but to go to work now. Last year, some of the best papers were shut out on this account.

We are promised for the next meeting a room with good acoustic properties, and that nothing will be allowed to break in on the time of scientific papers. Announcements by this committee will be made in this Journal, from time to time, but you are requested to ask for place, as soon as possible.

S. S. Towler, Chairman.

Marionville, Pa., Dec. 1, 1898.

Reviews.

MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By Dawson Williams, M. D., Physician to the East London Hospital for Children. In one 12mo. volume of 629 pages with 18 illustrations. Cloth, \$2.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

This handbook deals mainly with the clinical aspect of the medical diseases of children. No attempt is made to give a full description of diseases common to all periods of life. These diseases are described sufficiently to point out the variations peculiar to childhood. Lack of immunity to the acute specific infections, notwithstanding the natural recuperative power of the growing organism, is considered the main factor in the high mortality in children. The work is intended to largely reflect the author's experiences and opinions. It is intended as a guide for the young practitioner, but some of the doses recommended need cutting for the inexperienced prescriber.

E. B. B.

A SYSTEM OF MEDICINE. By Many Writers Edited by Thomas Clifford Allbutt, M. A., M. D., Regius Professor of Physic in the University of Cambridge, etc. Volume III. Price \$5.00. New York: The Macmillan Company. 66 Fifth Avenue. London: Macmillan & Co. Ltd.

The increasing frequency in which this system of medicine is referred to in general medical literature indicates the popularity of the work and the authoritative nature of the contributions. Volume III. deals with the infective diseases and toxicology. The editor has classified infective diseases into heads consisting of those having a chronic course; those of uncertain bacteriology, either endemic or non-endemic; those communicable from animals to man, both of certain and uncertain bacteriology; those due to protozoa.

The intoxications embrace, poisoning by food, grain, mushrooms, snakes, alcohol, opium, etc.

A chapter on internal parasites and addenda on the sero-diagnosis of typhoid fever, plague and yellow fever, conclude the volume. The work is specially interesting to American readers from the fact that it reflects the best English opinion, and while we do not intend to detract from American authors, it may be said that a work like this is almost a necessity to a thoroughly well-read physician.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. Third Edition. Revised, Rewritten, and Greatly Enlarged. By G. Betton Massey, M. D., Physician to the Gynecic Department of the Howard Hospital, Philadel-

phia, etc. Illustrated with Twelve Full-Page Original Chromo-lithographic Plates in Twelve Colors, Numerous Full-Page Original Half-tone Plates of Photographs taken from Nature, and many other Engravings in the Text. Royal Octavo. 400 pages. Extra Cloth, Beveled Edges, \$3.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.

While the average gynecologist gives little attention to electro-therapeutics, the author of this work has devoted many years to its special study. He is an admirer of Apostoli, an enthusiast on the subject of the therapeutic value of electricity in its various forms and recommends it as the agent in the treatment of almost all abnormal conditions of the female pelvis excepting closed abscess. The scope of this edition is so broadened that it now constitutes a brief treatise on gynecology written from an electro-therapeutic standpoint. In a tabulated list of 75 cases of fibroid tumor of the uterus, treated with electricity, 85 per cent. of successes is claimed. This high percentage of cases cured will be questioned by many leading gynecologists. The indiscriminate application of this powerful agent (in the present state of our knowledge) cannot be commended. Conservatism (against the knife) seems to be the watchword of the author, yet he invades the uterus with a highly charged electrode which leaves conditions after its removal, which renders asepsis impossible and antisepsis as difficult as after the use of the knife. This work will be welcomed by those who have been disappointed in the use of the knife and will be criticised by the successful operators. E. B. B.

GUIDE TO THE CLINICAL EXAMINATION AND TREATMENT OF SICK CHILDREN. By John Thompson, M. D., F. R. C. P. Ed. Extra Physician to the Royal Hospital for Sick Children and Lecturer on the Diseases of Children in the School of Medicine of the Royal Colleges, Edinburgh. With Fifty-two Illustrations. Lea Brothers & Co., Philadelphia and New York. 1898.

This little volume contains 336 pages, and is gotten up after the style of the "manuals" which have become so popular. It is a treatise on the diagnosis and therapy of children's diseases, and it covers the ground well.

The author departs from the modern orthodox clinical teaching that "Teething is productive of nothing but teeth." "We shall be nearer the truth if we avoid both extremes * * * teething, like menstruation, pregnancy and other natural states, is often accompanied by marked symptoms, both local and reflex, and like them may produce temporarily a tendency to disease which is not present at other times."

Analysis of the principal proprietary infant foods is given, and they are declared to be unfit for use as substitutes for mother's milk. The work bears plainly the stamp of foreign authorship both in phraseology and illustration, but American authors are freely quoted. It is supplemented by an appendix giving tables on the incubation and infective periods of the various diseases of childhood; and the formulae mentioned in the text.

The paper and typography are good and the cuts are notable for the unusually successful portrayal of facial expression in various diseases. The entire range of children's diseases is covered in a brief, yet comprehensive manner; and the work will answer admirably as a substitute for the more ponderous pediatric works. A. L. R.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M. D., Instructor in Clinical Medicine in the University of Pennsylvania; Professor of Clinical Medicine in the Woman's Medical College; Physician to the Philadelphia Hospital, etc., etc., with 372 illustrations. Philadelphia, W. B. Saunders, 1898. Cloth, \$4.00 net. Half Morocco, \$5.00 net.

Even a casual examination shows the reader that this is a volume worthy of closest attention chapter by chapter. The whole subject is covered in a manner which is at once complete enough to make the book of value for reference, and yet concise enough to be adapted to the needs of the hard-pressed student. The experience of the author as a teacher is evidenced in the methodical arrangement and decisive treatment of each special branch of the subject taken up—features which make the work peculiarly fitted for the use of students, and it cannot be questioned that this was uppermost in the mind of the writer in its preparation.

To quote the preface:—"The author has tried to present the subject of pathology in as practical a form as possible, and always from the point of view of the clinical pathologist. Considerable parts of the book were first prepared and used as the basis of demonstrations upon clinical pathology for students of medicine; prominence is therefore given to pathologic physiology, and discursiveness and citation of authors are avoided."

This being true, an ideal text-book is the result; a book which may be studied systematically in conjunction with standard works on the practice of medicine, and surgery, without loss of valuable time in attempts to harmonize the studies. A book which must convince any persistent doubter (if there be any at this day!) of the tremendous importance of an accurate knowledge of pathology to the scientific practice of medicine.

The subject matter is arranged under two heads—General Pathology; and Special Pathology:—Part I, including the etiology of disease; disorders

of nutrition and metabolism; circulatory disturbances; retrogressive and progressive tissue changes; inflammation and regeneration, etc., also excellent chapters on bacteria and animal parasites and the diseases caused by them.

Part II is devoted to the special pathology of tissues, organs, etc. Diseases of the blood; lymphatic tissues; the circulatory and respiratory systems; the gastro-intestinal tract; urinary and reproductive organs; bones and joints, etc., etc., are fully discussed. The chapters on the gastro-intestinal tract, circulatory system, and reproductive organs are particularly good; as are those on the nervous system.

It is a pleasure to note that the numerous illustrations (in contradistinction to many so-called "illustrations!") really illustrate the text, and aid greatly to an understanding of the subject.

For use as a text-book, Dr. Stengel's Pathology is probably the best now available; and as a work of reference, it compares favorably with other works on the subject, many of which are so verbose and complicated as to be of but little assistance to the average reader. H. C. W.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. Third Edition, Revised and Enlarged. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Medical Society of London, of the Royal Academy of Medicine in Belgium; Corresponding Fellow of the Sociedad Espanol De La Hygiene of Madrid; Member of the Association of American Physicians. Illustrated with 204 Engravings and 13 Colored Plates. Lea Brothers & Co., Philadelphia and New York. 1898.

Any medical work reaching its third edition in three years must possess decided merit, and the perusal of this work gives the reader the impression that the author is easily a master of the kaleidoscopic field of symptomatology. The work is divided into two parts, the first of which is "The manifestation of disease in organs," embracing thirteen chapters: the second part considers "The manifestation of disease by symptoms," and includes nine chapters. It contains 624 pages, including an excellent index. The paper is of excellent quality, and the typography is faultless. The colored plates are exceptionally fine, as are also the reproductions of various photographs. Some of the cuts are, while clear, and answering the purpose of illustration, much inferior to the general standard of excellence observed elsewhere throughout the work.

New matter has been added, and the work is thoroughly up-to-date. Roentgen ray photographs, the centrifuge for examination of urine

and blood, and serial photographs from various views, are some of the newer features.

Thirty-six pages are devoted to the eye, presumably because "The eye affords more information for diagnostic purposes concerning other organs of the body than any single part which can be examined." De Schweinitz, Dercum, Randall, Hotz, Norris, and Hughlings Jackson are quoted, among others, in this chapter.

Fourteen pages, including a plate in colors, are devoted to the tongue. The author ascribes more importance to the tongue than is usually accorded it by diagnosticians, while he at the same time admits the potency of local causes and conditions in altering that organ's appearance.

Twenty-three pages are taken up with the microscopical and chemical examination of the blood, two plates illustrating blood parasites are included in this chapter. The first plate is given to the parasites of tertian and quartan fever; and the second of the parasite of æstivo-autumnal fever. Williamson's test for sugar in the blood in cases of diabetes, is recommended; but the same test as a method of differential diagnosis between carcinoma and sarcoma "is scarcely delicate enough." Forty pages are taken up with "The urinary bladder and the urine." A plate illustrates the microscopical appearance of casts, uric acid crystals, ammonia urate crystals, and epithelial cells.

Attention is drawn to the fact that the inexperienced microscopist may mistake cylindroids for casts: and to avoid this error the following directions are given: "Too much light should not be used in searching for them, nor should a lens of too high power be used." Several cuts are given of the cylindroid and cast-like forms.

The author devotes but seven lines to the microscopical examination of urine for the elusive "gonococci." But little consideration is given, either by way of plates, cuts, or description, to microscopical pathology, and this is perhaps proper, since the work is "the subject of medical diagnosis as it is met at the bedside." Physical diagnosis of diseases of thoracic, abdominal and other organs are given the usual amount of space, and the ordinary directions and illustrations are given. The practitioner in search of a thorough practical work on diagnosis will make no mistake in adding this book to his library. A. L. R.

NINTH ANNUAL REPORT OF THE COMMISSION IN LUNACY OF THE STATE OF NEW YORK. October 1, 1896, to September 30, 1897. Peter M. Wise, President; Goodwin Brown, William L. Parkhurst, Commissioners; T. E. McGarr, Secretary. Transmitted to the legislature March 11, 1898. Wynkoop, Hallenbeck, Crawford Co., State Printers, New York and Albany, 1898.

The Ninth Annual Report of the New York State Commission in Lunacy for the year ending September 30, 1897, which is just out, is a huge volume of 1,612 pages. It is made up of the reports of individual hospitals for the insane and of the report of the pathologic institute and the Commission itself. It is now about ten years since the Commission was constituted, so that sufficient time has elapsed to permit an estimate to be formed as to the wisdom of its erection. The Commission consists of three members, who devote all their time to this work and who supervise and direct the management of all the institutions for the insane in New York, including the financial outlay of those owned by the State. All the institutions in the State report to the Commission and no important changes, such as building operations, etc., can be made without its approval. The Commission has made uniform statistics and salaries and wages in the various State hospitals for the insane. The superintendents of the various hospitals meet the Commissioners once a month at Albany for conference. While the Commission is a strong central body having entire control of the care of the insane in New York, and has instituted certain uniformity in the various State institutions, yet a very considerable degree of individuality remains for each in the matter of internal administration, etc. The frequent meetings of superintendents with each other and with the commissioners tends to do away with Philistinism.

The pauper insane in New York are all cared for by the State in her eleven hospitals; and in no other State has this been done so completely as it has been and is in New York. These State hospitals contain 20,843 insane persons each of whom costs the State, for support, \$186 a year or \$3.58 a week. Including expenditures for new buildings the outlay for the year was \$5,489,891—certainly a very large sum.

The Commissioners commend the commitment law which has been in force since July, 1896, which requires that every insane person must be taken before a judge who must sign the commitment before he can be placed to a State hospital. It is held that the law probably results in keeping from the asylums certain insane who can and should be cared for at home. The commitments for the year showed a decrease of 250 as compared with the previous years, whereas they have, as a rule, increased about 200 each year.

Perhaps the crowning glory of the Commission is its foundation of a pathologic institute in New York City equipped with the most approved apparatus for original work in pathology, psychology, biology, anthropology, and physiological

chemistry. Dr. Ira Van Geisen, who is widely known for his scientific attainments, is director of the institute and has a dozen associates working under him.

A new institution for the criminal insane is being erected at Dannemora. This class of insane has been provided for, apart from the insane generally in New York, for many years.

Altogether the insane in New York are cared for more thoroughly and completely than in any other State in the Union; and it is the only State in which purely scientific research is largely encouraged. The commissioners are to be congratulated upon the magnificent showing made in their report—a report which must be a great source of information and inspiration to every practical alienist and to many others besides who are interested in the care of the insane from the socialistic or philanthropic point of view; and in closing the hope is expressed that a copy of the report has been sent to the members of the State Lunacy Committee of Pennsylvania. T. D.

NEW BOOKS.

Fifth Annual Report Upon the Births, Marriages, Divorces and Deaths in the State of Maine, for the Year Ending December 31, 1896. Augusta: Kennebec Journal Print. 1898.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. With 653 Illustrations. Price, Cloth, \$5.00 net. Sheep or Half Morocco, \$6.00 net. Philadelphia: W. B. Saunders, 925 Walnut St. 1898.

Acromegaly. An Essay to which was Awarded the Boylston Prize of Harvard University for the year 1898. By Guy Hinsdale, A. M., M. D., Fellow of the College of Physicians of Philadelphia and of the American Academy of Medicine, etc. Price, \$150. Reprinted from Medicine. Wm. Warren, Publisher, Detroit. 1898.

Diseases of the Skin. An outline of the Principles and Practice of Dermatology. By Malcom Morris, F. R. C. S., Surgeon to the Skin Department, St. Mary's Hospital, London. New (2d) edition. Revised and Enlarged. In one 12mo. volume of 601 pages, with 10 Colored Plates and 26 Engravings. Cloth, \$3.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

A Compend of Obstetrics. Especially Adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A. M., M. D., Late Professor of Obstetrics and Diseases of Women in Starling Medical College. Revised and Edited by William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. Sixth Edition. Illustrated. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

On the Origin and Progress of Renal Surgery. With Special References to Stone in the Kidney and Ureter; and to the Surgical Treatment of Calculous Anuria. Being the Hunterian Lectures

for 1898, together with A Critical Examination of Subparietal Injuries of the Ureter. By Henry Morris, M. A., M. B., London, F. R. C. S., Senior Surgeon to the Middlesex Hospital, etc. Price, \$2.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

Human Anatomy. A Complete Systematic Treatise. By Various Authors, Including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M. A., and M. B., London. Senior Surgeon to the Middlesex Hospital; Examiner in Surgery in the University of London, etc. Illustrated by 790 Wood Cuts, the greater part of which are Original and Made Especially for this Work by Special Artists. Over 200 Printed in Colors. Second Edition, Revised and Enlarged. Price, \$6.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

A Manual of Physiology. With Practical Exercises. By G. N. Stewart, M. A., M. D., Edinburgh; Professor of Physiology in the Western Reserve University, Cleveland; etc. With Numerous Illustrations, Including Five Colored Plates. Third Edition. Price, \$3.75 net. Philadelphia: W. B. Saunders, 925 Walnut Street. London: Bailliere, Tindall & Cox.

Communications.

THE SEMI-CENTENNIAL ANNIVERSARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

This Society will celebrate the semi-centennial of its first meeting on the 14th, 15th and 16th of January.

The exercises will consist of a commemorative oration, a sermon, in which a plea will be made for the charitable fund of the Mutual Aid Association of the Society, and a formal dinner.

The oration will be delivered by Dr. J. Chalmers DaCosta on Saturday evening, January 14, 1899. On Sunday evening (the following day) Rev. Kerr Boyce Tupper, D. D., will preach a sermon appropriate to the occasion, at which all the members of the Society are urged to be present. The sermon will be delivered in the First Baptist Church, N. W. Cor. Broad and Spruce Streets. After the sermon a collection will be taken up for the benefit of the Mutual Aid Association of the Philadelphia County Medical Society.

On the date of the Anniversary, January 16th, 1899, the Committee has decided to arrange for a dinner, to be held at Horticultural Hall, and it is hoped that every member of the Society will be present. At this dinner it is expected that speeches will be made by various members of the Society, by a few prominent physicians of other cities, and by representative men of the other learned professions who may be present as invited guests.

With the object of securing as large an attend-

ance as possible at the dinner, the subscription has been fixed at the low price of three dollars per plate. Wine will not be furnished except to invited guests; all members who desire wine can procure it at their own expense.

To enable the Committee to make timely arrangements, it is important that all contributions be in hand as soon as possible, and not later than January 1st. They may be sent to Dr. James Tyson, Chairman of Sub-Committee on Finance, 1506 Spruce Street.

Dr. William M. Welch, Chairman,
Dr. W. W. Keen,
Dr. James Tyson,
Dr. W. B. Atkinson,
Dr. George M. Gould,
Dr. A. H. Cleveland,
Dr. John B. Roberts, Secretary.

Committee

Members of the county medical societies of Pennsylvania, who desire to take part in these exercises are cordially invited to attend the meetings; and participate in the Anniversary dinner in the same manner and at the same subscription price as members of the Philadelphia County Medical Society itself.

Checks for \$3 should be sent to Dr. James Tyson, 1506 Spruce Street. The Committee will return the checks of those who subscribe too late to be included in the number it is possible to accommodate at table.

J. B. Roberts, Secy.

NOVEL METHOD TO PRODUCE ABORTION.

The abortionist to-day is recognized, *per se*—as a busy man. His services are in great demand; he is consulted by people in the various walks of life. Society has for him a confidential consideration, while his fees for services are not limited. He continues in his path of wrong, until a sudden cry of halt is announced, and he languishes for an indefinite period as a criminal behind the bars. "The way of the transgressor is hard" finds confirmation in the work of these charlatans. The strange features of one case which I desire to place upon record, were to me novel, amusing and finally successful in its result.

This family had been more than ordinarily prolific in their matrimonial contract, averaging an addition to the family circle about every twelfth month. This rapid increase in numbers induced the husband to consult some close friend among the laity for a remedy—a remedy that would prevent, or at least destroy the work of the insinuating, busy spermatozoon, and thus secure carnal indulgence, without maternal issue.

The kind friend who was called in as a con-

sultant had a very happy suggestion for this afflicted husband. The layman had read, or heard of the work of puncturing the membranes with a catheter, and thus produce a premature discharge of the contents of the uterus. The husband was only too eager for the remedy; so he at once hied himself to the drug store to purchase a full sized rubber catheter armed with a wire. The instrument was purchased—but its great length rather confounded the husband as to how he could use it successfully. He was told to push the catheter into the womb. This operation seemed simple and easy as a subject of conservation, but was not without some serious misgiving, as to whether his knowledge of anatomy would make the venture a success. He finally talked the subject over with his wife, explaining in detail how it was to be done. She gave her consent willingly to undergo any risk and pain so that she might escape having another child. The great length of the catheter was now the only obstacle that induced a halt in the attempt. The husband finally cut the catheter in half. To use his own language he “hesitated lest he might puncture some important organ and find to his surprise the appearance of the instrument coming out the throat of his wife.”

His wife was placed in an erect position bending over the back of a chair. The husband, with catheter in hand, proceeded posteriorly to introduce the instrument. He was successful to a surprising degree—gently pushing the instrument until it disappeared from his grasp and out of sight. Now comes the dilemma. That he had lost the instrument there was no doubt—its whereabouts was unknown. For twenty-four hours husband and wife had a series of talks about the future. On the evening of the second day the husband appeared at my office, armed with a four ounce bottle filled with bloody urine. His mental distress was a study. I closely interrogated him as to the cause of the bloody renal secretion. With the humility of the condemned he did a tale unfold. At once I suspected he had entered the bladder. The following morning I called at the house and subjected the patient to an examination. Gently passing a probe into the bladder I felt the contact of some irregular surface, as the probe was moved about within this viscus. I withdrew the probe, and inserted a narrow pair of polypus forceps, and was soon rewarded in removing the half of a number ten “A. S.” catheter from the bladder. The catheter was seven and one-half inches in length. Two days after the removal of the foreign body from the bladder the patient aborted at two and a half months. She made a rapid recovery, and is in good health at the present writing.

D. W. Bland, M. D.

Pottsville, Pa., Sept 22, 1898.

THE MEDICAL ASPECT OF THE WAR FROM THE STANDPOINT OF A REGIMENTAL SURGEON.

Editor Pennsylvania Medical Journal:

So much has been said in the way of criticism of the management of the army in the war with Spain, now happily terminated, that little, it would appear, remains to be said. Viewed from the standpoint of the triumphs of our arms upon land and water, the war was conducted and ended in a manner calculated to satisfy the most ardent advocate of belligerency. No war in ancient or modern times was ever more uniformly a series of triumphs for the ultimate victors. When we consider the utter lack of preparation for war in which the nation was found at the beginning of the contest, the result is all the more surprising and gratifying.

Viewed from the point of sanitary science and of modern medicine it was far from satisfactory. It certainly does not reflect credit upon the profession of medicine to be compelled to admit that in all the military camps in our own country as well as those in the possessions acquired from our adversaries, whither our armies went to engage the enemy, the prevailing malady was one that is properly classed among the preventable diseases. That typhoid fever should become epidemic in these camps is not a circumstance calculated to inspire in the lay mind admiration for, or confidence in, the preventive methods of modern medicine. Nor is the fact that the great military camp at Chickamauga became in two months a colossal fever bed, until the ranks of many of the regiments were decimated, and the commands were rendered unfit for actual service in the presence of the enemy, one calculated to beget a spirit of admiration for the medical department of the army. In saying this I do not wish to be understood, especially here, to locate the actual responsibility for the phenomenally disgraceful condition of that camp. I wish only now to point the real conditions which there existed. I shall therefore in this paper reluctantly, attempt to comply with your request to give a description of the army from the standpoint of a regimental surgeon.

To begin with, I was not favorably impressed with the hospital system of the army, even if it had been carried out according to its conception. In the late war with Spain the regimental hospital plan of the civil war was abandoned, and division hospitals were substituted.

By this plan it was intended that no serious cases of sickness should be treated in the regiments and no regimental hospitals were provided by the government. Only regimental dispensaries were provided and these were but meagerly supplied with the remedies necessary for

the treatment of those minor ailments incident to camp life. The cases supposed to be treated in the regiments were those in which the ailments were not of such a serious character as to totally disqualify the soldier for military duty. All other cases were to be sent to the division hospital. One of the leading objections to this system was that those who became seriously ill were removed from their command, from their associates, who were personally interested in their welfare, and from the attendants and medical officers who were likewise their acquaintances and friends. This often caused homesickness and dissatisfaction on the part of the sick soldiers. Another objection to the system was the necessary transportation of the sick in ambulances often when such conveyance was hazardous. Then too, the hospital corps of the several regiments were broken up and scattered. Some were sent to the division hospital, others to the ambulance corps. The same thing occurred with reference to medical officers of the regiment. Two were taken from each regiment and one was left with it. The ambulance corps consumed one-third of the medical force of the army and the officers thus assigned were practically lost to the service. I am speaking now of the plan as outlined. It had in it some things to commend but more to condemn. The ambulance corps, as I have said, deprived the medical service of one-third of the medical officers without giving such service as to compensate for the loss of these officers. The ambulance service at Chickamauga was imperfect and inadequate so far as supplying the daily needs of the regiments. Though ambulances were in abundance, like the proverbial policeman, they were rarely accessible when needed for the emergencies in the different commands. So far as my observations went, an ambulance rarely accompanied a regiment in its drills and marches. I have known our own command to march six miles in heavy marching order, in a temperature of 100° F. without a single ambulance accompanying it, though the men were prostrated by scores and needed to be transported to their camp. A notable instance of mismanagement in this branch of the service occurred when all the ambulances of a certain division were sent from Chickamauga to Lexington several days in advance of the troops, and that, too, at a time when all the hospitals, regimental and division, were crowded with sick soldiers, most of whom it was necessary to transport about four miles to a railroad station, in order to send them on hospital trains to their homes. Another thing which rendered the ambulance service inefficient was the iron-clad rules governing them. I remember on the occasion of the long march of our regiment, on

the hot day alluded to above, of being sent for to see two men who had fallen out of the ranks and needed to be assisted back to camp. I saw but a few rods away from me one of the "Reserve Ambulance Corps," and riding up to the officer in charge, I requested him to come with an ambulance to the assistance of the sick men, but he replied that the rules prohibited him from doing so, without an order from Col. Hoff, Chief Medical Officer, at Camp Thomas. As this officer was about two miles distant I gave up the attempt, and the two men were carried back to camp in one of the ordinary government wagons belonging to the regiment. I have not the slightest doubt that the medical service of the army would have been very much more efficient under the system of regimental hospitals, allotting to each regiment its quota of ambulances, to be used as the needs of the command required, and retaining also the three surgeons belonging to the regiment. This was the common belief of the officers and men, and this view was also entertained by the great majority of medical officers at Camp Thomas, so far as I have heard expressions on the subject. In saying this I ought to add that no obstruction was laid in the way by these officers to hinder the complete and successful operation of the system adopted. If it failed to meet in a satisfactory manner the emergencies that existed it was the fault entirely of the system itself or of those charged with its execution.

So far as the care of the sick was concerned the system of division hospitals worked well until the epidemic of typhoid fever reached or was approaching its height. Here it utterly failed, not on account of the incompetency of those in charge of these hospitals, but because of the inadequacy of the accommodations. It was certainly not to the discredit of a surgeon in charge of a hospital if he was supplied with three hundred beds where nine hundred were required. Nor can anything to his discredit be predicted of the fact that the regiments were compelled to provide hospitals of their own, without government aid, or else to transport men too sick to travel, to distant cities, either to the homes of the men, or to hospitals in the cities to which they were sent. I do not mean to imply that all, or most, of the foolish practice of transporting men sick with typhoid fever for hundreds of, and even for more than a thousand, miles grew out of the lack of hospital facilities, but much of it did so originate.

Many and diverse opinions have been expressed as to the cause of the epidemic of typhoid fever at Chickamauga, and these opinions have not always been devoid of self-interest. The attempt of those in high positions to shift the responsibility and fasten the blame on the volunteer surgeons,

or even on the regimental commanders is without foundation in reason or fact. The volunteer surgeon was neither incompetent nor dissipated, and I am glad to see that the Surgeon General has in his annual report relieved these officers from the odium which his interview, as published in the daily newspapers, cast upon them. These surgeons, as a rule, did not enter the military service with the object of finding temporary employment or of bettering their condition in a financial way. The majority of them were men of high standing in their professions, with wide and varied experience in the treatment of disease and possessing an accurate knowledge of surgical methods. In leaving their professions to follow the fortunes of war, most of them made such a sacrifice of business interests and home comforts as to entitle them to exemption from unjust criticism, if, indeed, it did not entitle them to encomiums for exalted patriotism. The majority of these men, too, had seen military service in the National Guard of the States from which they came. My observation of these officers convinced me that they were educated and experienced, and in the discharge of duty they were conscientious to the point of enthusiasm. It may as well be understood, first as last, that they will make very unsatisfactory scape-goats.

Neither do I agree with those who have attempted to put all the blame on the men themselves. Of course, to a large extent, the volunteer soldier was without previous military experience, or, at best, he had but a limited experience in the life of a soldier. He might, therefore, be expected to do a great many indiscreet things for which he would pay the penalty of sickness. But to the statement that a large majority, or even a considerable proportion, of the volunteers were dissipated I cannot subscribe. The dreadful picture of intoxication portrayed by a writer in the *Journal of the American Medical Association* is one which I failed to witness, and I was with the army much longer than he. In our own command I never saw but one man who was really intoxicated, and as to the numerous cases of venereal disease, exceeding in number even those of typhoid fever, of which he speaks, I can say that condition did not exist in our regiment. We had very few cases of that disease.

The cause of the astonishing prevalence of typhoid fever at Chickamauga lay above and beyond any of the circumstances already alluded to. It had its origin, I have no doubt, in an infected water supply. This idea, I know, has been strongly combatted. When I was before the committee now engaged in investigating the conduct of the war, the question was asked, if I had information that chemical tests proved the water

to be pure and that bacteriological tests of the water failed to reveal the presence of pathogenic germs, would I still say the disease was caused by the water. I replied that in the presence of such a general epidemic I would. Much would depend upon the time and conditions under which the test was made. Many epidemics of typhoid fever have existed the origin of which has been clearly traced to the drinking water of the community affected, in which bacteriological tests have failed to discover the specific germ of the disease. This was notably the case in the last epidemic of typhoid fever in Philadelphia. In the historic Plymouth epidemic, the most notable one on record, the chemical test showed the water to be pure. I do not know that a bacteriological test was made, but the conditions were such that a like test would have been futile in discovering the unmistakable origin of this outbreak.

I was strongly impressed with the idea of the multiple sources of infection of our camp—that no one source explained the constantly increasing number of typhoid cases. Among these causes I placed the infection of the food by flies high on the list, and I hailed with delight the change of the camp which we had occupied from May 20th to August 7th, because it had been impossible in the location first occupied to prepare and maintain proper sinks. The ground chosen for our second camp, in the Smith-White field, was entirely satisfactory, and the sanitary arrangements of this camp might serve as a model for any command. And yet the fact remains that with an ideal camp, and the danger of infection from flies largely removed, the number of typhoid fever cases did not diminish. On the contrary the epidemic in our regiment reached its height about August 20th, although we removed from the old camp on August 7th. Of course in the majority of cases the infection may have occurred in the camp first occupied, but I am inclined to think that the water was still the chief factor in the production of the disease. When the regiment left Chickamauga and went to Lexington, Ky., there was almost immediately a notable diminution in the number of new cases, and in a short time very few cases occurred. The water supply was completely changed, and it no longer served as a vehicle for the conveyance of the specific germ of typhoid fever. I am strongly of the opinion that the water at Chickamauga was infected, and it was therefore, a lamentable error to keep so large a body of men, and for so long a period, in that fever-stricken camp. Even if fever had not really broken out, it was against every rule governing the safety of the camps to continue the many regiments here stationed for so long a time upon the same ground. This

evidently was not the fault of the medical department, as the instruction sent out by the Surgeon General was distinctly against the long continuance of commands in the same camp. I have also seen a copy of an order issued by the Chief Surgeon at Chickamauga which shows clearly that he had several times invited attention to the danger of keeping the troops longer in the camps then occupied by them.

As to the hospitals at Chickamauga I would say that, aside from the lack of accommodations for the sick, they were not conducted according to modern ideas. The nursing was not done, as a rule, by those trained in that art, but by men without previous experience in caring for the sick. Neither was there a sufficient number even of these untrained attendants. Who would think in this day of conducting a hospital without experienced and trained female nurses? Professional nurses by the hundreds, and perhaps thousands, had volunteered their services to the government, or to the Red Cross Societies. These brave women rivaled the men in their loyalty to the government, and they only awaited the opportunity to give to our brave boys in the fever-stricken camps the tender ministrations for which by nature and training they were qualified. I have never been able to see any objection to, or impediment in the way of their employment. The fact that they were finally employed in large numbers in the Sternberg and other hospitals, shows that there really was no impediment to their employment in field hospitals. They would have been veritable angels of mercy in the various division and regimental hospitals.

As to hospital supplies, I would say that in my judgment they were inadequate. For the first few weeks it was almost impossible to get the few drugs needed in our regiment. This was before typhoid fever had occurred. Aside from the acute indigestions and diarrhoeal ailments the health of the command was at that time good, and it was fortunate it was so, for the remedies with which to treat even these minor ailments were rarely to be had in sufficient quantities.

The death rate at Chickamauga was very low. Many of the typhoid fever cases were of a mild type. At first there was considerable dispute as to the diagnosis, a few surgeons concluding that most of the cases were malarial remittent fever. I never held to this view. I was from the first convinced that the disease was typhoid fever. There were many severe and protracted cases, and autopsies in fatal cases invariably showed extensive ulceration in the intestines. The temperatures taken morning and evening in our regiment shows that many cases passed through the entire course of the disease without the victims

even entering the hospital. These cases were kept on a proper diet for typhoid fever patients and they were directed to keep as quiet as possible, but they walked to the dispensary twice a day for the purpose of having their temperature taken and receiving food and treatment. The only excuse to offer for this manner of treating typhoid fever is that there was no other way in which they could be treated, as there was no place at that time to which they could be sent. Happily no deaths occurred among these cases.

Time and space will not permit a further discussion of "The Medical Aspects of the War from the Standpoint of a Regimental Surgeon," but at some future time I may be able to take up matters not discussed in this paper.

Respectfully yours,

W. G. Weaver.

*Late Acting Surgeon 9th Regt. Pa. Vol. Inf.
Wilkes Barre, Pa.*

A GOOD DECISION.

The decision in a case which involved the publication of scientific criticism of proprietary articles has recently been published in France. The facts were substantially as follows: A firm of opticians in Paris were the proprietors of a glass containing baryta from which "isometropic" lenses were prepared. Dr. Javal, the director of the Ophthalmological Laboratory of the Sorbonne, to test the statements made in favor of the lenses by the proprietors, had his assistants make an examination of the glass and lenses. In consequence, he reported to the French Academy of Medicine that the differences between baryta glass and ordinary glass were insignificant; there was nothing in favor of the former and the "isometropic" lenses did not offer any advantage to purchasers. The proprietors brought an action for damages to the extent of 20,000 francs, but the court decided that a scientific man might rightly examine and criticize on public grounds any manufactured article for which special merits were claimed, and the plaintiffs had to pay the costs. Would that every proprietary preparation for which special merit is claimed could be put under the searchlight of a scientific investigation.—*Merck's Bulletin.*

Monthly Reports of County Societies.

REPORT FROM BERKS COUNTY MEDICAL SOCIETY.

IN MEMORIAM: HENRY LANDIS, M. D.

Dr. Henry Landis, Reading, Pa., died October 18, 1898. He was born in East Lampeter Township, Lancaster County, March 27, 1836.

His ancestors were of German origin, and with few exceptions devoted their lives to agriculture. His grandfather was a prominent preacher in the church known as the New Mennonites—a sect which in their practices resemble the English Quakers.

Dr. Landis began the study of medicine with Dr. J. Augustus Ehler, of Lancaster, and after attending two courses of instruction at the University of Pennsylvania, was graduated from its Medical School in 1861. He began the practice of medicine at Wrightsville, York County, whence, after a stay of several months, he went to Marietta, Lancaster county. From there he went to Reading in 1870, where he continued his professional work successfully until a few weeks before his death. He was a member of the first Board of Health of the city of Reading, held a prominent position in the Masonic fraternity, and was a member of the Lehigh Valley Medical Association, as also of the Reading City, Berks County, State and National Association.

J. W. Keiser,

Secretary Berks County Medical Society.

REPORT OF SOMERSET COUNTY MEDICAL SOCIETY.

The October meeting of the Somerset County Medical Society was held at the Rockwood House, in Rockwood, on the 18th of the month. The weather was very disagreeable, as it rained all the day, and

therefore, no patients were before the society, but reports of interesting cases were made.

The gentlemen present to whom subjects for report and discussion had been assigned, performed their duties well, but discussions were limited in time and number on account of this being the meeting at which officers are elected. There were not as many present as should have been, but there was no lack of interest on the part of those present. The absent ones are the losers.

Election of officers resulted as follows: President, R. T. Pollard, M. D., of Garrett; vice-president, A. J. Welfley, M. D., Confluence; treasurer, W. S. Mountain, M. D., Confluence; corresponding secretary, David Gildner, M. D., Rockwood; secretary, H. C. McKinley, M. D., Myersdale. The treasurer and secretaries were re-elected.

We hope to enter upon the new year with increased membership and still greater interest.

We invite physicians who are not members of our association to meet with us, and also all physicians who are members of any organization anywhere, when they chance to be near us.

Our regular meetings are held on the third Tuesdays of January, April, July, and October, and we induct into office, at the January meeting, the newly elected officers.

H. C. McKinley, Secretary.

REPORT FROM BRADFORD COUNTY MEDICAL SOCIETY.

IN MEMORIAM: W. PATTON GRIFFITHS, M. D.

Died at his home in Towanda, Pa., September 21, 1898, Dr. W. Patton Griffiths, aged 44 years.

Dr. Griffiths was born in Germantown, Pa., August 14, 1854, and when ten years old removed with his father, John J. Griffiths, to Towanda. Here he attended the

Susquehanna Collegiate Institute, and later Cazenovia, N. Y., Seminary. After graduating from the Medical Department of the University of Pennsylvania, class of 1881, he located in Louisville, Ky., where he continued the practice of his profession until his removal to Towanda in December, 1894. Dr. Griffiths joined the Bradford County Medical Society in 1895, and was a regular attendant at its meetings until the time of his death.

Dr. Griffiths was married June 18, 1891, to Miss Mattie Withere Morse, of Covington, Ky., who, with their one child, a daughter, survives. He was a member of the Protestant Episcopal Church, of the Sons of Veterans, and of the Eta Chapter of the Delta Phi Fraternity.

At the regular monthly meeting of the Bradford County Medical Society, held October 11, the following resolution was unanimously adopted:

Whereas, An allwise Providence has removed from our midst our friend and fellow member, Dr. W. Patton Griffiths—therefore be it

Resolved, That the members of the Bradford County Medical Society desire to express the sense of loss they have sustained in the untimely death of their brother, who by his genial manner, personal integrity and professional courtesy won the affection and commanded the respect of all with whom he came in contact; and that they extend to the family of the deceased heartfelt sympathy in their bereavement, and that a copy of this resolution be sent to them and also that they be published in the Reporter-Journal.

J. W. Chamberlain,

C. L. Stevens,

F. G. Newton,

Committee.

ROSTER OF THE CENTRE COUNTY MEDICAL SOCIETY FOR 1899.

All meetings will be held in the Y. M. C. A. parlor, in Bellefonte, on the second

Tuesday of each month, and will be opened promptly at 10 o'clock, A. M.

Discussions will be limited to ten minutes to each speaker, excepting the person assigned to open the discussion, and the reader of the paper, in closing.

The reporting of cases, with or without the presentation of the patient, is in order at all times.

Meetings.

January 10—President's address, by Dr. H. S. Braucht. Subject for discussion: Antisepsis in Country Surgery, Dr. W. W. Andrews.

February 14—Paper by Dr. R. G. H. Hayes. Subject for discussion: Placenta Prævia, Dr. G. S. Frank.

March 14—Paper by Dr. S. B. Newton. Subject for discussion: Scarlatina, Dr. E. A. Russell.

April 11—Paper by Dr. Geo. B. Klump. Subject for discussion: Strangulated Hernia, Dr. J. W. Bright.

May 9—Paper by Dr. Geo. H. Woods. Subject for discussion: Some points in Legal Knowledge Required of Physicians, Dr. J. Y. Dale.

June 13—Paper by Dr. J. F. Alexander. Subject for discussion: Ivy Poisoning, Dr. J. L. Seibert.

July 11—Paper by Dr. F. H. VanValzah. Subject for discussion: Cholera Infantum, Dr. S. G. Coons.

August 8—Paper by Dr. O. W. McEntire. Subject for discussion: Difficult Labor, Dr. A. Hibler.

September 12—Paper by Dr. C. S. Musser. Subject for discussion: Bronchitis, Dr. H. S. Braucht.

October 10—Paper by W. U. Irwin. Subject for discussion: Valvular Lesions of the Heart, Dr. Geo. B. Klump.

November 14—Paper by Dr. J. A. Thompson. Subject for discussion: Immovable versus Movable Dressings in Fractures, Dr. Geo. F. Harris.

December 12—Paper by Dr. A. Hibler. Subject for discussion: Chorea, Dr. R. G. H. Hayes.

J. Y. Dale, Secretary.

REPORT OF THE NOVEMBER
MEETING OF THE ALLEGHENY
COUNTY MEDICAL SOCIETY.

The regular meeting of the Allegheny County Medical Society was held November 15, 1898.

Dr. J. J. Buchanan exhibited a patient from whom he had removed the entire rectum and about one-half of the sigmoid flexure of the colon for carcinoma of the upper third of the rectum, by a combined sacral and abdominal method. He also reported a case of gastrostomy by Kader's method, performed without anesthesia, with perfect result as to feeding and leakage; and a case in which he had successfully removed a stone from the common bile-duct with the aid of Halsted's hammer.

Dr. C. C. Hersman read a paper on "Anesthesia and Anesthetics," in which he emphasized the importance of the anesthetist. He called attention to the proper position of the patient's head; the indications for chloroform, ether and nitrous oxide; the regular cycle of the pupil under anesthesia; and the methods of resuscitation. He condemned so-called "mixed anesthesia," to which some surgeons still adhere.

Dr. Samuel Ayres presented a paper on "Traumatic Neuroses." In the discussion following, Dr. J. W. Macfarlane spoke of the comparative safety of chloroform in warm climates and for use with children. He condemned the A. C. E. mixture in common use. Dr. G. W. Allyn mentioned free perspiration on struggling patients with lividity as a danger signal, and the danger of syncope sometime after the removal of the anesthetic. Dr. W. M. Beach expressed an opinion in favor of general anesthesia even for small operations, stating that, with few exceptions, cocaine, eucaine, etc., were best not used. Dr. R. W. Stewart said in regard to cancer of the rectum, that he believed the operation of the future would be to make an artificial anus, and resect the entire lower bowel at the same

time, and close the lower wound without drainage—provided no extravasation of feces had occurred into the wound. He also said he considers operation for stone in the common bile-duct, without exception, the most difficult in abdominal surgery. In struggling patients, excited by ether, he urged the pushing of the anesthetic. He also favored anesthesia in grave crush injuries, questioning whether the effects of the shock of amputation without it would not be greater than the danger from administering an anesthetic. Dr. J. D. Thomas condemned mixtures, stating that, administering a single drug, one knows with what he has to deal. Dr. C. A. Wishart said he was personally in favor of chloroform, believing it perfectly safe if given by a competent anesthetist. Dr. J. C. Dunn expressed a preference for giving chloroform without oxygen, if chloroform is to be given at all, believing that the length of time involved in the operation may be a large factor of danger. He said the proper and careful administration of ether and a rapid operation are the two essentials to safety.

In closing the discussion, Dr. J. J. Buchanan said his experience led him to favor chloroform, but he defers to the anesthetist, who is responsible, after investigating the individual case, other things being equal. In regard to traumatic neuroses, he also said that the difficulty lies in the fact, that while many cases are fraudulent, others have some foundation; and, that as a rule, we can judge from the demeanor of the patient whether his symptoms are real or simulated. He considered spying on such patients unjustified, but urged comparison of several, careful, recorded examinations before expressing an opinion. In regard to the advisability of removing the rectum in cases of cancer of that organ, he considered it a question each man must decide for himself, whether considerable chances should not be taken in desperate cases, for we

know, if such cases are left to the processes of nature, what the outcome will be.

Dr. C. C. Hersman called attention to the fact of true traumatic neuroses being sometimes diagnosticated hysteria. Also in regard to anesthesia that he thinks a majority of the deaths from chloroform are traceable to the incompetent anesthetist. In conclusion, he said: "I think the surgeon should never operate without full confidence in his anesthetist, and then should not interfere with him."

*J. I. Johnston,
Editorial Committee.*

Current Medicine.

THE BRAIN POWER OF PLANTS.

In the *Gentleman's Magazine* for August Mr. Arthur Smith contributes a suggestive paper on the brain power of plants. He argues that plants show certain physical qualities which indicate the existence of brain power. One of these points is that plants sleep and need sleep. If they do not get it, they suffer from insomnia. Electric lights have recently been used to stimulate the growth of plants. When treated in this way they are prevented from sleeping, and the result in the case of perennials has been to weaken their constitution, and in the following year their growth was scanty and in some cases they were scarcely alive. Carnivorous plants possess the faculty of digesting. This, the author thinks, can only be carried on by brain force, acting by means of the nerve upon the gastric organ of plants. Plants low in the scale of organization are subject to the influence of anesthetics. The movements of desmids and diatoms can be arrested by the application of chloroform or a weak solution of opium. The writer thinks that nothing but brain power guides the shoot of germinating seed upward and the root downward. He sums up his conclusions as follows:

"It is unnecessary to adduce further illustrations in proof of the fact that brain power

can and does exist apart from a visible brain. When we see the irritability of the sensitive plant, transmitted from one part to another, exhausted by repeated artificial excitants, and renewed after a period of repose, it is difficult to dissociate it from animality. Still less can we witness certain organs taking determinate positions and directions, surmounting intervening obstacles, moving spontaneously, or study the manner in which they are affected by stimulants, narcotics and poisons, and yet declare these phenomena to be caused by a different power which produces similar actions and effects in animals."—Medical Age.

THE RABIIETIC BACILLUS.

Foll, Rivolta and Spinelli claimed to have detected a bacillus the specific character of which was made highly probable by Sanfelice, who, employing a special staining process, demonstrated its presence in large numbers in the spinal cord of a boy who had died from hydrophobia. Memmo of Rome confirmed the observation of Sanfelice and proved the virulent character of the micro-organism, which he detected in several cases of rabies, but quite recently he has succeeded in cultivating it in artificial media, and in reproducing by inoculations with these cultures the disease with its distinctive characters, in dogs, rodents and birds respectively. These experiments and observations, which fulfilling the most stringent demands of bacteriologic criticism, leave no room for doubt, are described in the *Centralblatt für Bakteriologie*. He found the microbe in the cerebro-spinal fluid and the substance of the brain and spinal cord, in the saliva and parotid gland, and in the aqueous humor of four dogs dying from the natural disease, and of rabbits, guinea-pigs and pigeons, in which it had been produced by inoculation. It grew better in fluid than in solid media, the best being bouillon with glucose slightly acidulated with tartaric acid. The growth did not become manifest under a

week, and was easily arrested by "air infection," as through the access of dust from the laboratory. Inoculated with cultures of the fourth generation, purified by successive plate cultures, guinea-pigs and rabbits developed symptoms of paralysis of the hind limbs, etc., after from eleven to twenty days, and died from the paralytic form of the disease. With dogs the inoculation was prolonged to from thirty to sixty days, when they were attacked with all the symptoms of typical natural rabies. Though Memmo does not suggest the application of his discovery to the prophylaxis of hydrophobia, it is not impossible that artificial cultures may be found capable of definite attenuation so as ultimately to simplify the methods adopted by Pasteur.—London Lancet, September 17.—Jour. Am. Med. Assoc.

ANTISEPSIS IN EXCELSIS.

We have heard of medical men wrapping themselves up in sheets and putting towels around their heads when visiting suffering patients from infectious disease, regardless of the feelings of sensitive patients at such an apparition, but certain surgeons abroad seem anxious to imitate the myrmidons of the Inquisition, and before performing any surgical operation they don hoods or capotes with no opening except for the eyes in order to guard against the "rain of bacteria" which might follow the accidental brushing of the operator's head against that of an assistant. In mercy to the patients it is to be hoped that they do not assume this ghastly attire until the former have been fully anesthetized. A photograph of a group of surgeons in full canonicals bending over the emaciated body of some hapless patient would, if properly placed on view in a populous thoroughfare, certainly have a *success de curiosite*.—(The Medical Press. North Am. Practitioner.)

THE RED CROSS.

The inevitable barbarism of war is always mitigated by the highest humanity for

which the Red Cross stands. It was at the battle of Solferino, in 1857, that Henry Dunans, of Geneva, witnessing the neglect suffered by the wounded and dying, conceived the idea for which the Red Cross now stands. Through his efforts a convention representing sixteen governments met in Geneva in 1864. The representatives of these governments agreed to regard as neutral societies giving succor to the injured. The treaty, out of compliment to the enlightened Swiss republic, under whose auspices the convention met, designated a red cross on a white ground as the emblem under which these aid societies should be designated. This symbol is the reverse of the Swiss flag, which is a white cross on a red ground. Forty governments have now given their adhesion to the principles advocated by the Red Cross societies.—(The Medical Age.)

IRRITATION FROM NON-ADVANCING TEETH.

Irritation from non-advancing teeth occurs because the normally flinty teeth, to which the soft gums can offer no practical resistance, are suffering from lack of nutrition. While the gum lancet gives temporary relief, yet it transforms normal into cicatricial tissue. In place thereof, the writer, Dr. Wallen, recommends correcting any faulty conditions in the infant's alimentary tract, and placing it upon a mixture of the calcic salts, approximating the proportions as nearly as possible to those found in the teeth. For example:

R Calcium phosphate, parts ij.
Calcium carbonate, parts iij.
Sodium phosphate, part i.

M. Triturate to an impalpable powder. Sig. Three to four grains, or more, with other food, three or four times a day for a week, then once a day, p. r. n. In anemic children a trace of ferric phosphate is added.—Ex.

An editorial writer in *The Sun* gives the Surgeon-General's estimate of the number of deaths from disease up to the present

time at about 1,500, or only about three-fifths of one per cent., in a total force of about 250,000 men. He cites a *Konversations-Lexicon* published in Leipsic as stating the loss of life from disease in the German army during the Franco-Prussian war to have been nearly two per cent. A French medical authority, Dr. Cheun, according to the *Army and Navy Journal* (also cited by *The Sun's* writer), gives the number of "sick and frost-bitten" in the French army as 339,421. The Hispano-American war lasted about five months. The Franco-Prussian war lasted about seven months. The advantages of the Germans in being thoroughly prepared, the writer thinks, go far to neutralize this disparity of duration.—*Medical Age*.

DURATION OF IMMUNITY AFTER VACCINATION.

According to Jasiewicz, the immunity from vaccination lasts a much shorter time in infants than is generally supposed. A study of the statistics of the subject showed a proportion of 7.35 per cent. out of twenty-three children under six years of age, in whom vaccination was successfully performed. The author, therefore, recommends more frequent revaccination in childhood, and expresses the opinion that children are also protected from other infectious diseases thereby.—(*Jur. de Clin. et Ther. de l'Enfants*.—*Universal Medical Journal*.)

Dr. A. M. Lesser, one of the army medical officers at Santiago, says that all told, he had forty-one hundred and sixty-two cases of sickness under his charge, twenty-four hundred and twelve of which were cases of Cuban malarial fever, and all of these ended in recovery. His treatment consisted in first giving a saline cathartic, and then using moderate doses of quinine at intervals of every few hours, along with hydrochloric acid. For the intense headache that accompanied the fever he found small doses of gelsemium gave the best results. After the subsidence of the acute

symptoms, and during convalescence a tonic of sulphur, camphor and capsicum seemed to cause a rapid disappearance of the malarial plasmodium from the blood.—*Clinical Review*.

IN DR. PEPPER'S MEMORY.

The City of Mexico, on September 12, held a memorial meeting to Dr. William Pepper, in the Hall of Congress, draped for the occasion. President Diaz, Senor Matias Romero, Dr. Porfirio Pana, Dr. Arellano and Dr. Mendiozabel made addresses recounting the deceased's great services to medicine and to humanity. Even his native city did not so honor her brilliant son, whose "stupendous labor and unselfish life" accomplished so much of good in a few short years.—(*Cleveland Journal of Medicine*.)

The animus of the homeopathic spirit is well illustrated by a writer in a recent issue of the *Pacific Coast Journal of Homeopathy*, who thus states the case: "There are cases, and the majority too (flatulent colic in the infant), in which the well-selected remedy is sufficient, but in my experience ever so often we run across a case which resists all our best directed efforts, and if we mean to let the baby have the benefit of homeopathy in its future ills, we must stop the pain, *or some old-school colleague wil.*" To save the infant from the regular practitioner, the doctor prescribes in such cases 5 to 30 drops of tr. opii camph. (The italics are ours.)—*Medical Age*.

CHLORAL HYDRATE.

A valuable and safe hypnotic for children. It was used in a lying-in hospital as a routine sedative when necessary, the dose being from one-half to two grains to a baby one week old. In a large number of cases not once did untoward symptoms arise. This drug may be classed with belladonna and others which are exceptionally well borne by children. It is best given in some simple syrup, well diluted.—*Ex*.

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Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

Addresses.

A FEW THOUGHTS UPON THE COMPREHENSIVENESS OF THE MEDICAL VOCATION.

By R. H. G. OSBORNE, M. D., OF MORRISVILLE, PA.

[Delivered before the Bucks County Medical Society, August 3, 1898.]

Immersed as he is in daily routine and special cases, it is well for the physician to lift his eyes occasionally to the horizon that surrounds him. To plod on year after year and run the danger of becoming narrow and circumscribed is a fate that the practitioner of medicine should above all men strenuously avoid. He needs a continual uplifting influence to carry him through the difficulties, anxieties and complications of his exacting labors. Such an uplifting influence he can find in viewing the magnitude of the sphere in which he is an humble

worker. There is nothing like an ideal, kept well above all petty considerations and shining like a fixed star in the firmament, to put heart into him who gazes upon it, and determines, as far as in him lies, to prove himself worthy of its benign lustre.

The physician is born and then made; just as the poet and the musician are born and afterwards learn the use of the tools they are to handle. There must be that in the man which fits him for the work, or the severest training will fail to make him a physician. He must, in short, have a vocation. To describe a vocation is well-nigh impossible, it is something which no amount of definition can make clear to him who has it not. Yet if a man has it not, he can at best but stand within the door of the great Temple of Healing and look vaguely and uneasily around him.

The vocation, then, being a real one, what is the scope of the sphere in which the physician finds himself? Is he simply a

healer of wounds and of fevers? A brilliant operator or a skilful oculist? Is his concern merely with the special ailment, the septic condition, or the dislocated limb? Has he nothing to do with the mind of his patient? With his idiosyncrasies, his hopes, fears, passions, prejudices? Here is a little world spread out before him; is he content to apply splint and bandage, or to prescribe some drug and then turn indifferently away? Occasionally this may be all that is needed; but the true physician knows how many factors, seen and unseen, are to be found in almost every case. Sometimes the purely mental affection predominates; and he is but poorly armed to deal with it, who has habitually ignored, in treating disease, all that he could not touch and handle. The whole individual, then, becomes the patient and not the mere local or systemic lesion. The individual is, in a sense, an epitome of mankind, and in that epitome the physician can see reflected the comprehensiveness of his vocation. Comprehensive it is, in very truth, for it is no less than man, in all his complex relationships and magnificent possibilities. What is there in this world that does not touch man? How can he, whose chief study is man, shut his eyes to the fact that everything that concerns the race concerns him also in his sphere as physician? Not immediately, perhaps, yet in a very real manner as bearing upon and intimately connected with that with which he has to deal. Macbeth, in his fury, had some dim perception of the possibilities of the Medical Art, when he exclaimed:—

"Canst thou not minister to a mind diseased!

Pluck from the memory a rooted sorrow;
Raze out the written troubles of the brain;
And, with some sweet oblivious antidote,
Cleanse the stuff'd bosom of that perilous stuff,

Which weighs upon the heart?"

The medical man who recognizes the majestic scope of his profession and gives it the reverence which is its due, will, more or less

clearly, keep before him the resulting ideal. How shall we describe the perfect physician? He is humble—for the grandeur of unaccomplished possibilities rises like a mountain before him. He is self-respecting—for he justly esteems the dignity of his profession, and the obligations which his admission thereto lays upon him. He is courteous, yet never servile; bold, yet always prudent; fearless, yet never reckless; sympathetic, but never sentimental; ready, but not precipitate; inflexible without harshness; cool, calm, and open to conviction; imperturbable, whatever may occur; honorable even to punctiliousness; and sincerely religious in the best and loftiest sense. He is a reading and thinking man; one who aims not so much to be "up with the times," as to be liberally conservative in all things. In short, the ideal physician is a type of the highest manhood that human nature can produce. Such a standard as this we should keep constantly before us; striving to realize in ourselves, as far as practicable, the comprehensive character of the medical vocation. No knowledge can come amiss to the physician. Anything he can learn he may at some unexpected moment find useful. How wise, then, is the progressive expansion and thoroughness of the modern medical curriculum; how unwise is the graduate who thinks the attainment of his degree the mark of a finished education.

That learned physician, Sir Thomas Browne, in his charming work, *Religio Medici*, says: "Heads of capacity and such as are not full with a handful or easy measure of knowledge, think they know nothing till they know all; which being impossible, they fall upon the opinion of Socrates, and only know they know not anything." Never may the medical man cease to be a student. It is true he can never even dream of compassing all he ought to know; but that very fact should fill him with an abiding aspiration, and teach him a reverence for his vocation which nothing shall be able to destroy. The practical value of such an ideal

will be found not only in the individual physician, but in its effect upon the whole profession. Not that the medical calling has ever been wanting in high ideals; they are in fact essential; it could not exist without them. But the profession is made up of its units, and some of these, amid the stress of their daily labors, may need to be reminded that they are members of an ancient and world-wide brotherhood, whose bright banner of progressive humanity they are bound to see shall never be soiled by any act or neglect of theirs.

The medical profession toils for others, and rarely reaps much in wealth or fame. But it has this divine note—that it is seldom remembered by the many, except in hours of danger and distress. God-like in its charity; princely in its benefactions; tolerant in its spirit; kindly in its ministrations; seeking the good of all and the injury of none; there is no calling better fitted to nurture a well-founded manhood. The vista before us rises ever onward and upward. Every scientific advance in the comprehensive art of Medicine is but a spur to further achievement, for as long as man shall exist, so long shall this divine art search out the mysteries of life and lay its healing hand upon aching limb and burning brow. To be proud of such a profession is well; to seek to be worthy of it is what we should earnestly strive after. One thing is certain—that when Medicine, as art and science, is rightly esteemed by any of her sons, all her influences tend to make him who so respects her a better and a nobler man.

Calmly and unostentatiously, doing nothing for mere gain or notoriety, Medicine has pressed forward in her silent but victorious career, until at last she has begun to attract the homage of the world. And as the years roll on, I think we may expect that Medicine, in all its branches (especially in the department of public health) will be recognized as the most beneficent and indispensable of human institutions, and will enlist the ungrudging support of governments and peo-

ple. It is, however, necessary that the profession should be better organized than it is, in order that it may exert a more continuous and intelligent influence. To this end every member of the profession should esteem it his duty to join his district medical society; and—in these United States—to enter the ranks of the American Medical Association. Unattached and unaffiliated medical men should be an anomaly no longer to be met with; for in so vast a field, and dealing with a subject of such universal importance, individual efforts, to be of any value, must be merged in the common treasury of the whole body.

No thoughtful physician can contemplate the vast regions of research indicated by the discoveries of Koch, Pasteur and Lister—to mention no others—without a rapt feeling of awe at the boundless prospect opened before him. Physiological chemistry is to-day investigating the marvelous infinitesimals of life; reaching down into the world of invisible atoms which underlies all visible phenomena, and building thereon an exactness of scientific induction, which has already begun to bear fruit in the broad arena of medical and surgical therapeutics. So great indeed has been the advance in knowledge, technique and instruments of precision that some have come to doubt whether the general practitioner will be able much longer to hold his ground. He should, of course, be quick to recognize and make use of the best results of the specialist. But to assert that the day of the family physician draws toward its close, is, I think, an error. Every individual is, to a very real extent, a law unto himself; and no specialist can take the place of the medical attendant, who understands and can allow for the many peculiarities of temperament and constitution among those committed to his care. The specialist should be considered a kind of court of appeal, to which physician and patient may resort in case of necessity. Therefore no family physician need hesitate to

submit a case to the specialist, or imagine for one moment that to do so is any reflection upon his own ability. The magnitude of the medical vocation, as it displays itself in the present and shadows itself forth in the future, is a weight too crushing for any one to bear alone. The only refuge from barren isolation is the closest union and co-operation between the members of the profession.

So common in medical annals is heroic devotion to duty, that it is scarcely noticed, or is perhaps taken for granted by the world at large. Yet this heroic attribute must be due to some more abiding influence than mere personal character. That influence, I firmly believe, is the atmosphere of pure and lofty aspiration—derived immediately from his vocation—which every true physician, it may be unconsciously, carries about him.

Intellectually and morally the physician should be the peer of any man, and generally speaking the superior. Each member of our noble calling, by personal culture and public example, can do much towards securing the profession in that due respect and reverent regard it ought ever to hold in the estimation of the people. Let us never hesitate to stand loyally by the ancient and honorable traditions of the profession; repelling with scorn all attempts to drag it down to the tradesman's level, and allowing no motive whatever to swerve us from the path of rectitude, which has been the roadway of the Hippocratic Guild through all the stress and clamour of the past.

We know not what the future may have in store; but this we do know, that it is foreign to the genius of enlightened humanity to go backwards. Science, with her x-ray vision, will by degrees lay bare all the secrets of biology; and the tireless efforts of undaunted investigators must be crowned at last with success. Some day, when man has achieved all that lies within his destiny and can look back with a clear, discerning eye upon the past, then will Medicine be accorded her rightful place in the minds of all, is the noblest, broadest, tenderest, truest

and most majestic art, that has ever found a habitation among the sons of men.

Serene in every thought, in every deed,

Unwearied Benefactress of the race,

How universal is Thy dwelling place!

What flowers of hope above the tangled weed
Of mortal anguish from Thy touch proceed!

What wrinkled cares Thy finger can efface;

O Mother dear! that doest nothing base;

Whose kindly acts are still thy chiefest meed!

Illustrious Queen! with what assur'd advance

Thou passest down the vista of the days,

A power divine, that like a regal star

Moves on its course, and through the wide ex-
panse

Of human travail shoots such quick'ning rays,

As make the sullen darkness shine afar!

THE HOSPITAL: THE PEOPLE IT HELPS AND THE PEOPLE WHO HELP IT.

[The Address at the dedication of University Hospital, of the University of Colorado, November 19, 1898, at Boulder, Colorado.]

BY WILLIAM PHIPPS MUNN, M. D.,

Health Commissioner, of Denver, Member Colorado State Board of Health, Ex-President Denver and Arapahoe Medical Society, etc.

The dedication of an institution for the care of the sick and the injured is a function that presents both material and moral aspects. In and of itself it is largely a question of financial interest for the community; but in the ideas that are symbolized and put into execution it assumes a moral aspect as broad and far-reaching as any others that can demand the attention of the human mind.

To the people the hospital stands, and rightly stands, in the same category as the meeting house and the school house. The ideas represented by the hospital are on a par in dignity and meaning with the best ideas represented in religious and educational institutions; for the three, church, school and hospital represent modern and practical forces in the struggle for the life and welfare of others, which, many of us are beginning to believe, is of even greater significance than the struggle for our own existence. And it

is true that the moment we step from the struggle of selfishness to the exercise of the effort of unselfishness, we have advanced, as persons, as a community or as a people; we have stepped from a lower to a higher plane of action; we have emerged from the clouds of personal struggle and entered upon the sunlit fields of progress where effort for fellow-man and for the race at large replaces smaller and meaner aims. When, therefore, this aspect of the matter is considered, the dedication of the hospital is not a small or common, or trivial occurrence, but it is a high and noble function of an almost religious significance; the tribute of man for the welfare of his fellow-man; the embodiment of humane self-sacrifice; the crystallization into useful forms of wood and stone, brick and mortar of that old yet ever new and never-dying sentiment of the brotherhood of man.

Here strong hands, well bodies, sane minds and acute intellects dedicate their own best and purest endeavors to the mitigation of the necessary ills of weaker hands, frailer bodies and less acute intelligences. It is a dedication that mingles necessary service with the voluntary free-will offering of human love and sympathy. And in proportion as it does so it offers comfort to the hurt body, rest to the overburdened mind and stimulation to the disheartened spirit.

In its first unconsidered and unorganized effort, the hospital is merely the expression of human sympathy for physical suffering; in its best considered and well organized administration it is vastly more. Hospital spirit of the kind that expends itself in the mere hysteric relief of physical pain stops short of its highest achievements; indeed it is a grave question whether hospital spirit goes no farther than this, does not do absolutely harm. For limiting itself to such meagre attainments, it is apt to induce in the one aided a spirit of indifference to the duties of provision for his own needs or to cultivate the dependent spirit that ultimately results in pauperization. And if that idea ever be-

comes well established in any community infinite harm is done; the real and higher objects of the hospital are not attained; weak humanity is led to believe that weakness is a virtue, charity a desirable thing and self-help unnecessary. Better a thousand times that this hospital, and that every hospital should not be established if they are to be instruments for debasing the will, humiliating pride, lessening self-respect or fostering pauperism of the complacent and satisfied sort.

Every hospital has, or ought to have, a distinct mission; every hospital ought to have a purposeful, intelligent and strong administrative policy, which will guide it safely through the tortuous channels that are lined on one side by the rocks of mal-administration, inhumane methods, desire for public show, and financial profit, while upon the other side whirl the engulfing currents of professional pauperism, lowered self-respect and indiscriminate charity.

A hospital should have an elevating effect upon its beneficiaries, upon its administrators, upon its professional attendants and upon the members of the community in which it exists. Its work is ennobling when properly performed, even to the smallest and most trivial details, as all honest service well performed and for the upbuilding of humanity receives its accolade of nobility from Him who knelt and washed the feet of His disciples.

The hospital in any community should come into existence because the conditions of life there have made a demand for it. If as an institution it supplies no felt want, if the voice of suffering or the unworded prayer of those hurt unto death have not called for its creation, it should not exist. But wherever and whenever there may exist physical disease in those unable to properly care for themselves or be cared for by their friends; wherever and however man in his struggle against nature or in toil amid the machinery that is his own handiwork, or in personal conflict of one human atom with

another, may be stricken down by violence or accident, there is a field for the hospital; there the unworded prayer is rising for aid, there the organized help of the hospital is demanded with an urgency that should not be denied. The comfortable couch, suitable nourishment, necessary medical and surgical aid, large airy wards, the tender ministrations of well trained nurses and the clear-headed judgment of competent physicians and surgeons are the gift of the hospital to the people. It is a gift that should receive proper recognition; that should be bestowed without delay when it is most needed and yet its value so recognized by those who give that it shall not be bestowed upon the unworthy.

The usefulness of a hospital is not always in proportion to its size or its endowment. There is said to be an institution in London that has an endowment of a million pounds and is the proud possessor of a building that will accommodate more than a thousand beds, but notwithstanding this, half of the beds are usually empty, because in that locality the actual need for hospital attendance is far less than the capacity of that building. Rich hospitals are very apt to offer premiums to unworthy applicants for relief. If in the interests of the whole community one were forced to choose between a hospital barely able to meet the necessary demands upon it and one too richly endowed, the verdict should really be in favor of the smaller or less richly endowed institution; for in such a case applications for relief will be more carefully scrutinized and those who are unworthy will be rejected.

To be poor and a proper object for hospital care is no disgrace; but to receive free of charge hospital care when one is able to pay for it, is the most lasting disgrace that can well attach itself to any person. The hospital is an institution having a field that is far different from that of the sanatorium; the acutely ill and the injured should fill most of the beds of a hospital that is doing its own work in its own well defined field;

the sanatorium is the institution par excellence for the care of chronic cases or of those who demand some new occupation for minds that have sickened in the ordinary pursuits of life.

Open air living, away from institutions of all kinds and with some light occupation that puts little physical strain upon the individual, is best for the consumptive who comes to Colorado intent upon regaining lost health. So, if this hospital does its work well, as I have no doubt it will, these beds will be filled with those who have a proper claim upon you for care. The workman whom the falling beam or turning wheel has mangled will here receive prompt and efficient attention; the farmer injured in his field, the miner crushed in the drift or broken by a fall, will here find hands accustomed to caring for such injuries and every appliance necessary to insure the easiest, quickest and surest recovery.

For the sake of those whom it helps and the furtherance of humane principles the hospital will care willingly for the poor; for the protection of the community at large it is well that the hospital should also care for those whose sickness is infectious and who may either by carelessness or immorality spread the infection until innocent ones are caused to suffer. Hospitals should care for such cases. If they do not, who will? The old set rule which excluded them from many institutions should never be in effect in a modern institution. As it stands to-day in many of the older hospitals, it is absurd and illogical—a relic of ignorance and a memento of barbarism, opposed to the ultimate welfare of the whole community.

And it should be one of the functions of those charged with the administration of the hospital to so perform their duties that the spread of that disease of the body politic, known as "hospitalism" shall be checked. How frequently those of us whose duties call us continually into hospitals find there patients who return to such institutions with a regularity and persistence that is appall-

ing. Not infrequently these fellows give the history of having been in one hospital or another in almost every large city of the country. These are personal victims of the disease called "hospitalism." The ease with which gratuitous aid may be obtained has been so impressed upon them in the course of their wanderings, that they no longer regard sickness or injury as an evil, but rather as a highly desirable condition to be invited if possible, so that (in the winter at least) they may spend as many weeks as possible under the sheltering roof of a charitable institution. To such moral wrecks, the free service of the nurse and physician seem no longer a bounty to be accepted with gratitude in the name of the kindly humanity which prompts its giving, but they claim as a right and criticise without shame that which has been given in many cases with much personal sacrifice.

To prevent the development of "hospitalism," to prevent this loss of self-respect, to avoid the creation of pauperizing influence, is the bounden duty of a hospital administration. While no proper or worthy person should ever be denied treatment, and while no emergency case should ever be turned away, there should still be a decent and proper inquiry in every instance as to the ability of the patient to pay.

It is clearly wrong to ever educate persons into the idea that they have a right to command something for nothing. Many a hospital patient takes his first voluntary step toward miserable dependency and a final ending in the poor-house, because he becomes imbued with the idea that the world owes him as a right that aid which tender hearts have all too freely extended to him in his first hours of great distress.

So, proper inquiries into the circumstances of the patient and a firm demand for a moderate compensation, when justifiable, both for the institution and the physician, should be among the most important rules of every hospital. More especially should such a rule apply in this hospital, since its

connection with the State University will sooner or later give it an extended reputation and draw hither for surgical and medical aid many persons outside of the local community. Very many of the persons who will come from a distance will be well-to-do and will endeavor to secure free treatment by coming to the clinic of this hospital. In a similar institution in another University town years ago, it was my fortune to know of many well-to-do persons who by such actions simulated poverty and thus actually stole for themselves aid, which it had been intended—and very properly—to limit to the worthy poor. This theft was a double one, since in many instances the presence of unworthy inmates so crowded the hospital that really deserving subjects were excluded from the wards.

It is almost needless to add that gratuitous treatment of patients who are able to pay is also an injustice of a very grave sort to the medical practitioner of the location from which they come. It would certainly make many a worthy practitioner an opponent of the University should such things occur here.

But of such occurrences in this hospital I have little real fear. I bespeak for this institution an earnest and energetic administration which by vigilant and faithful attention to duty will prevent abuses, while it will at the same time work for the attainment of elevated ideals, in harmony with the history of this University and for the fulfillment of the high destiny that is the aim of your medical school.

And if that destiny is to be worked out to its fullest and highest and most complete attainment, the personnel of the medical and surgical staff must bear the brunt of the burden. It is a responsibility from which they need not shrink. Wherever and however our most noble profession has been put to the test, in the persons of its representative members, it has not failed. Whatever the stress of conflict, whatever the tension of prolonged endurance, however

severe the test of adversity, the medical profession has borne it without murmur and in the end triumphed without boasting.

Whether the records of its achievements be mingled with those of statecraft, as in the history of Benjamin Rush and his six medical confreres whose names are signed to the Declaration of Independence, or whether they be hidden in the modest statement of unheralded effort against pestilence as in the case of the members of the Mississippi State Board of Health a year ago, the story is one of arduous duty well done, of honors won but not claimed, of perils dauntlessly met, and of achievements modestly recorded.

It is perhaps pardonable at this time, when you are dedicating a building which can only attain to its desired usefulness through the efforts of practitioners of medicine, to dwell for a moment upon the heroic side of labors that are not often recognized as such. We have all been thrilled a thousand times during this year by the rehearsal of heroic deeds of Americans upon sea and land. But the eyes that flashed at the vision of Roosevelt charging the entrenchments at San Juan had first filled with tears at the story of the death of Surgeon John Blair Gibbs, the first American killed on Cuban soil—a Mauser bullet through his brain as he ran to help a wounded marine on the beach at Guantanamo. We Denver men, who felt the personal sting of grief at the death of some officer of the gallant Seventh at El Cany, felt also the pulse of professional pride at the recital of the bull-dog bravery and obstinate performance of arduous duty by gallant Surgeon La Garde, professionally known to all of you; the sacrifice of Colonel Waring's life to the yellow fever scourge which he had hoped to throttle was a bit of heroism that has been spread broadcast through the world; but it was paralleled by the same endurance of danger from the same disease by Surgeon Hallock of the Seventh, who has made a slow and prolonged recovery. General Wood, whose

sanitary achievement at Santiago has been a model to the world and an inspiration to Sanitary science, is a physician. Victor C. Vaughan, known to you all as a man of eminent attainments in medicine, himself convalescent from yellow fever, cared for the wants of a thousand men on an overcrowded transport returning from Cuba, but came out, thank God, alive. These are a few of our own heroes of the war, but we do not need to leave ordinary times and our own State to record deeds of heroism. It was Gardner, a graduate of your University School of Medicine, who gave his life in the performance of his duty during a typhoid fever epidemic at the Arapahoe County Hospital a few years ago; it was a physician in your own town of Boulder, a plain, unassuming and faithful public officer, whose quiet performance of duty that was a continual personal risk, kept from this town an epidemic of small-pox a few months ago; it was another physician of Boulder who for the sake of humanity and your welfare took up his abode for weeks in a tent outside the city with the quarantined cases of small-pox, and then when the danger was all over, resumed his usual work without any special recognition. These are the unsung heroes of our profession and of our every-day life. So long as you are to depend upon them and such as they are for the success of the institution which you dedicate to-day, you need have no fear. The responsibilities are being placed upon broad shoulders; the helm will be in strong, brave hands; the guiding spirit will be keen, alert, faithful and steadfast. There is no red badge of courage more symbolic of all that is good and desirable in our civilization, or that covers truer, stauncher hearts than the emblem of the hospital and of helpful medical organization—the red cross, whose color signifies the living blood and whose shape typifies our faith in that Master, Whose we are and Whom we serve, and in Whose name this building is dedicated to its holy uses.

Original Articles.

SOME SEQUELÆ OF INFANTILE CONSTIPATION.

BY WILLIAM M. BEACH, A. M., M. D., OF PITTSBURG,

Surgeon to the Presbyterian Hospital.

[Read before the joint meeting of the Lawrence and Beaver County Medical Societies.]

I would be unmindful of my duty did I fail to express my keen appreciation of the compliment conferred by the request of your Committee to appear before this body composed of two of the leading county societies of our state and numbering among its members men of zeal and reputation in both state and national medical councils.

In the consideration of a subject so wide in its scope and varied in its phenomena as constipation, it occurred to me that a discussion would prove of more practical value to the general practitioner were it limited to some phase as indicated by the title of this brief communication.

By infantile constipation is meant the cases occurring from early infancy to two years of age which includes the period of early dentition. It shall also be my purpose to outline a course of treatment.

Every physician is so familiar with the occurrence of this condition that it becomes a matter of daily thought as to the best methods of management. Infantile constipation, as in the adult, is a relative term and merely expresses a condition. General metabolism is so intimately related to primary assimilation that a disturbance of the latter destroys the equilibrium of tissue changes, the acme of nutrition and personal well being.

A consideration of this subject involves an inquiry into:

- 1.—Factors giving rise to constipation.
- 2.—Some local and general disturbances that follow.
- 3.—Remedial measures.

The etiological elements concerned in the production of constipation may be:

- 1.—Mechanical and congenital.
- 2.—Neurotic.
- 3.—Chemical.

The peculiar anatomy of an infant's intestines, the many convolutions of the rectum, is a mechanical cause of constipation. The colon of the foetus is much longer relatively, than that of the adult and being crowded into a narrow, poorly developed pelvis, so lessens motion as to cause absorption of fluids resulting in dry stools. (Huber).

The rectal valves formed by reduplications of mucous membrane offer an obstruction to the bowel contents analward. This portion of the colon being supplied by the inferior mesenteric vessels and nerves may be called the fecal reservoir, since peristalsis is slower and more feeble thus allowing more absorption than in that portion supplied by the superior mesenteric nerves.

The capacity of the infant's intestines is relatively greater than that of adults and the absorptive elements more active, while the secreto-chemical processes, according to Baginsky, possess greater activity in the adult. Additional data of significance in the etiology of infantile constipation are the muscular deficiency of the infant's lower gut, the unusually long meso-sigmoid permitting valvulous angulations and a great deal of mobility within the abdomen, all obstructive to defecation. Spasmodic and atonic states lead to intussusception, fecal impaction and stricture. Local or general peritonitis produces a temporary suspension of intestinal activity resulting in intestinal inertia.

The infant's anus is not sufficiently expansive, causing the patient to strain at stool. This condition is usually associated with hypertrophy of the sphincter and at times anal fissure becoming propter hoc in their causal relations of constipation.

2. Neurotic causes:

The great solar plexus is the source of nerve supply to the abdominal viscera con-

trolling secretion, excretion, circulation and intestinal peristalsis. Impairment of this nerve supply through pressure of inflammatory processes or neoplasms will result in paralysis and obstipation. Certain reflexes contribute no little toward coprostasis as those produced by dentition, ascariides, etc. Cerebral and spinal diseases lead to obstipation.

3. Chemical.

Dr. Byers in a paper argued that the constipated stool of the infant is fat and not casein as commonly taught; that the fat accumulated in the stool because of its non-assimilation by the organism; that he associated this failure to appropriate fats to rickets and general malnutrition.

It is true that fat does occur in the costive stool, and when you find fat there will also occur proteids in the feces; but their presence there is due to the fact that the chyle was not treated to the emulsifying and absorptive influence of the bile. And right here is a point I think is often overlooked in the etiological consideration of infantile constipation. We must not forget that the infant's liver is just as liable to congestion and consequent retention of its secretion as that of the adult and more so because the child is by nature a gourmand. Physiologically, bile aids digestion (1) by emulsification of fats, (2) preventing putrefaction, (3) promoting peristalsis, (4) favoring absorption.

In normal digestion we have ultimately elaborated absorbable products, soluble albuminoids, emulsified fat, glucose and matose. In indigestion, we have numerous aromatic, nitrogenous compounds produced that are toxic. In the stomach the absence or diminution of free hydrochloric acid results in putrefaction, and in this viscus and in the intestines the presence of micro-organisms result in decomposition, and among the resultant poisonous products thus created we have lactic, acetic, succinic, carbonic, the aromatic and the volatile fatty acids, indol, skatol, phenol, ammonia, methan, sulphuretted hydrogen, etc. In sucklings

not infrequently a large amount of acid is formed when fungi in the intestine split up milk or grape sugar into lactic acid. Starch changed into glucose may undergo some abnormal process, hence, infants should not be fed with starchy foods.

The liver acts as a barrier to guard the organism against the invasion of these various poisons, and may transform them into innocuous substances or eliminate them by the bile as non-absorbable chemic combinations.

It is the recognition of these facts that will enable us to extend our argument into the second division of this subject, namely, some of the results or sequelæ of infantile constipation.

These are two-fold, and may be termed local and constitutional disturbances. Coprostasis may lead to colitis, simple, mucous or ulcerative. It may produce various rectal diseases, as prolapsus recti, hypertrophy of the sphincter, fissure of the anus, varices, pruritus ani, eczema of the anus, etc. To this may be added hernia as a sequel.

It would prolong my paper beyond its proper limit, were I to consider these local lesions severally; but I cannot refrain from a few words on the more common of them.

The infant's anus not being sufficiently expansive will cause it to strain, and frequent attempts often result in prolapse of the gut, and becoming accustomed to this exposure will subject the bowel to atony, congestion, and ulceration. This becomes a nidus for the invasion of micro-organisms which will further damage the bowel; a diarrhœal discharge may ensue. In a paper read before the Pennsylvania State Medical Society, the writer contended that many cases of chronic diarrhœa were simply due to some local lesion in the rectum.

If the child cries during or after defecation, always suspect a fissure. Constipation and fissure may be simultaneously cured by inserting the anointed finger into the rectum. An infant of three months suffering from constipation was brought to my

office within the last two weeks. The mother stated that her baby would scream during stool and fret for an hour afterward when it would sleep from sheer exhaustion. The grandmother said that the child's father was affected the same way in infancy. The infant was feverish and poorly nourished. An examination revealed hard acholic feces and a fissured anus. The fissure was cured by a simple digital divulsion, and the constipation is being treated successfully by massage, pure water and mild cholagogues. An important local sequel to infantile constipation is atony of the rectum. This is probably due in many patients to the administration of large enemata of cold and, still worse, warm water to effect an evacuation, when the real trouble is acholia and the liver should be attacked. We must also not forget the feeble muscular walls of this viscus as a contributing factor. Diarrhœa is a local sequel claiming our consideration, and as such many a patient will be quickly relieved of summer diarrhœa when the true nature of the disease is recognized. In acholic states the streptococcus entericus and certain ptomaines will develop that will supplant the constipated condition with lienteric discharges. This leads me to record some of the constitutional sequelæ of infantile coprostasis.

In this connection let me say that these sequelæ, both local and systemic, may extend into adult life, and go far as contributing agents to develop diseases and lessen the resisting powers of the organism.

Dr. J. Lewis Smith states that many of the severe standing cases of constipation in adults dated back to infancy.

The question of auto-intoxication naturally takes precedence. Modern investigation along this line makes formerly obscure diseases stand out in clear light. Gastro-intestinal coprostasis is the most frequent source of auto-intoxication favoring an overproduction of physiologic and pathologic products of the organism, as ammonemia, acetonuria, etc., and retention of

intestinal poisons will produce anomalies in general metabolism without definite localization as to source, as rheumatism, gout and oxaluria.

The absorptive power of the colon and rectum is great and the quantity absorbed is in direct ratio to the time of contact and concentration of the substance. Since all functional action in the system is reciprocal, it follows that the functional activity of the chylipoietic system must affect the nutrition of the brain and entire nervous system.

The absorption of toxic and excrementitious substances produces retrograde changes in the quality of the blood, diminution of red blood corpuscles, and by supplying an infected nutriment to the brain becomes a prominent factor in the production of cerebral anæmia and nervous debility.

I desire at this point to emphasize again the inhibitory influence of the liver and its product upon these toxins elaborated in the gastro-intestinal tract. I think we may be assured of the truth of the proposition that acholia will beget constipation and its consequent train of symptoms, whereas the presence of bile in the intestine under the proper stimulus will insure digestion, intestinal asepsis, or at least innocuous compounds. The infant may cry because of pathological states, and it is difficult to ascertain the seat of the disease. I have found rheumatism and constipation associated, and the removal of the one would cure the other. Certain cutaneous diseases are the result of constipation, as eczema, urticaria and impetigo.

Other diseases may be added to the category as direct or remote resultants of infantile constipation, as nervous manifestations in the form of convulsions, neurasthenia, headache and paralysis, rickets and mal-nutrition.

The symptoms of infantile constipation may be epitomized as coated tongue, colic, tympany, irregular and hard stools, dyspepsia, anorexia, peevishness, febrile states, giddiness, convulsions and mal-assimilation.

PROGNOSIS AND TREATMENT.

Recognition of the cause is of first importance in outlining the treatment and giving a prognosis. Each case must be treated upon its individuality. In most cases a permanent cure may be expected; in a few, only temporary relief.

Where constipation depends upon disease of the heart, lungs, liver or anatomical abnormalities, special measures must be invoked. For atonic and acholic states measures must be used to restore functional activities. Further, a spasmodic condition may exist in the lower half of the large bowel while the upper half is atonic and distended with gases and fecal matter. The distinction between these two is of the highest importance since active treatment in the form of electricity, massage and laxatives, being curative in atonic states, becomes positively harmful in an agitated intestine.

The treatment will resolve itself into measures that are:

- 1.—Mechanical.
- 2.—Dietetic.
- 3.—Medicinal.

The first should be the treatment of choice in a large number of forms of infantile constipation. Massage consists of frictions, pressures and percussions. The effect of medical gymnastics upon circulation, animal heat, absorption, muscular and nervous systems, are fully recognized by the profession. The various forms of constipation likely to be benefitted by massage are those arising:

- 1.—From muscular paralysis.
2. From anæsthenia of mucous membrane.
- 3.—From induration of stools.
- 4.—From mechanical obstacles.

The contra-indications are:

- 1.—Ulcerations of stomach or intestines.
- 2.—Acute inflammation of intestines or peritoneum.

The infant's abdomen should be anointed with olive oil prior to the treatment. Use the ball of the thumb, making circular

movements beginning at the caput coli and following the colon, also over the liver. This should be done every morning and continued for fifteen minutes at a time. Many cases will readily respond to this procedure alone, but quite a few will require adjuncts by way of dietetics and medicine.

Galvanism and faradism are useful agents but their inconvenience is an objection to their general use; besides, a formidable instrument is not calculated to enhance the complacency of childhood.

The question of diet and hydrotherapy is receiving a large measure of attention by such men as Rotch, Cotton, Love, Forcheimer and Tuley.

Laboratories are to be found where the infant's food is furnished by prescription supposed to contain fats and proteids in physiological proportion intended to insure digestion and proper nourishment. The difficulty in infant feeding is to find a suitable aliment for the individual since the caprices of the latter vary as the trees of the forest. One will require an excess of fats while in another proteids will be in demand; but I believe that this apparent diversity of conditions arises largely from inactivity of the liver caused by overfeeding and too frequently, and that attention directed to its functions by massage and mild cholagogues will assure ready absorption and perfect metabolism. With these precautions, cow's milk, pure or diluted, will generally suffice. Numerous brands of prepared foods are on the market, and are worthy of trial in many cases; but cow's milk should generally have the preference.

The mother's habit of giving the baby castoria, syrup of figs, etc., is responsible in many cases of constipation to adult life. Also the habit of giving large enemata should be condemned except by direction of the doctor. The subjective symptom of fullness in the rectum with impossibilities of evacuation, and often a faintness when it has emptied, are well known. The doctor may recommend the enema carelessly and

the nurse continue its use indefinitely to the injury of the bowel. In spasmodic conditions of the lower bowel, injections of oil, glycerine and water are to be commended for the purpose of allaying irritability and relieving the coprostasis. Further, the injection should be given slowly through a long soft rubber tube, the patient in the right lateral position. The quantity injected should contain of

Glycerine	10 drops.
Olive Oil.....	1 dram.
Water	10 ounces.

The chief object of this injection is to prepare the patient for other and more rational measures.

The medical treatment of infantile constipation should be very simple. The infant should be given plenty of water to take the place of water absorbed. We are signally indebted to my distinguished friend and colleague, Dr. H. S. McConnell of this society for the introduction of hydrotherapy in gastro-intestinal diseases of children. His able advocacy in this line has generalized its use in these affections. The systematic use of water will restore the normal secretions. The little subterfuge of adding a colored tablet containing five grains of common salt to a half pint of hot water will convince the mother that her child is receiving proper medical attention. A teaspoonful to a tablespoonful should be administered every hour or two. Cholagogues, according to preceding assertions, will probably be most efficacious, i. e., in acholic constipation. To this end minute doses of calomel or of magnesia may suffice. A formula that I frequently use for infants is:

Hydrargyri chloridi corrosivi.....	1-10 grain.
Olei ricini.....	$\frac{1}{2}$ ounce.
Mucilaginis acaciæ q. s.....	
Misturæ cretæ q. s. ad.....	2 ounces.

M. Sig: One half to one-teaspoonful from one to three times daily.

Infants artificially nourished may be given instead a few drops of aromatized cascara sagrada in their food, pine apple juice, orange juice, etc. Fraser's milk tablets are

very useful. Of course, in selected cases, massage must accompany the medicine.

I shall not discuss the treatment of infantile constipation dependent upon neurotic states or abnormal anatomical structures.

To collate, I would state:

1.—Infantile constipation is a common affection during dentition.

2.—The causes of infantile constipation are (a) mechanical, (b) neurotic, (c) chemical.

3.—Acholias is the most frequent causal factor.

4.—In acholic states, certain toxines develop.

5.—The bile prevents their formations.

6.—Local sequelæ are prolapse and fissure of anus, hernia, colitis, etc.

7.—The constitutional disturbances following are chronic constipation in adult life, auto-intoxication resulting in rheumatism, and certain cutaneous diseases, convulsions, neurasthenia and cerebral anæmias.

8.—The treatment should be directed to the cause, and most cases are curable.

9.—Massage and diet are of first importance.

10.—Cholagogues and water, aided by systematic enemata, are of inestimable value and curative.

EMBOLISM OF MIDDLE CEREBRAL ARTERY.

By J. F. DONEHOO, M. D., OF WASHINGTON.

[Read before the Washington County Medical Society, July 1898.]

The following case I am permitted to report through the kindness of Dr. L. F. Kirchner, with whom I was associated for about two weeks on the case.

R. E. A. aged 26, a student in Washington and Jefferson College. About twelve years ago, he had a severe attack of inflammatory rheumatism which left him with a stenosis of the mitral and aortic valves.

For the last two years he had been subject to slight attacks of tachycardia which would

lay him up for a few days at a time; aside from this he never showed any symptom of lack of compensation. On account of the cardiac murmurs and the tachycardia he had been excused from regular gymnasium work in the college. He was a senior and as he was a very bright young man he was working hard for commencement honors; also for a prize to be given for the best examination on the Bible, and as he was the best musician of his class he was chosen leader of the serenade which required a great deal of work to train the class in singing the new songs.

As the time for examinations and serenade drew near, he was working under a great strain. On the 19th of May, after his examinations were over, his heart began to weaken and against the advice of his physician, Dr. Kirchner, he started out that evening with the boys for their serenade. He came home, however, between 10 and 11 P. M., much exhausted. At 6 A. M., on the morning of the 20th he sent for Dr. Kirchner and me. We found him very weak; heart tumultuous and very irregular, pulse 140 per minute. At that time no distinct murmurs could be heard. We ordered him pulv. digitalis gr. 1 every three hours. Under this his heart's action became better and on the 22nd he was able to go about the house and in the afternoon went out buggy riding. At 1 A. M. on 23rd I was sent for and found him much excited and sitting up in bed. When he tried to talk there was very marked aphasia. He would miss about every fourth or fifth word. Pulse was 80, very full and tense. In the right arm there was no pulsation in the radial or ulnar arteries, but the brachial artery could be traced down to its bifurcation at the elbow. So there was evidently an embolus lodged at that point. There was no swelling of the hand; it was paler than the left; the nails had a bluish tinge; the blood would return rapidly after pressure. He seemed to have a great deal of gas in his stomach so I gave him some sodium bicarbonate and he was

soon relieved, and in 15 to 20 minutes his speech returned perfectly and he told me he had eaten some green beans, some strawberries and a little pork on the afternoon of the 22nd. I ordered him a grain of pulv. digitalis and left him. He slept moderately well till 6:30 A. M., when he had a free evacuation of the bowels, but as soon as he returned to bed he collapsed. Dr. Kirchner and I on arrival found him unable to speak at all, numb on the right side; heart weak, very irregular. He was given a drachm of aromatic spirits of ammonia and one-half ounce of whisky. It was noticed that when he attempted to swallow his right cheek was paralyzed. This was followed in a few minutes by paralysis in the right arm, then in the leg. The tongue was also paralyzed on the right side. Eyelid, ball and pupil were unaffected. Patient was perfectly conscious and seemed to realize all that was going on. Heart recovered somewhat under stimulation but remained dichrotic and irregular. He seemed to be gradually sinking all day. Every half hour or so he would motion to see his watch, evidently wondering if he would live till his parents arrived. About 4 P. M. he rallied some; pulse becoming more regular. Gave him strychnine nitrate gr. 1-60 every 3 hours and allowed him small quantities of egg nog. He passed a fair night. 24th, 8 A. M. Pulse 80, not so irregular; a weak thready pulse perceptible in right radial, which became stronger till in a few hours it was as strong as the left; could also find the ulnar pulse; do not know what became of the brachial embolus. No motion or sensation on right side. Examined the heart and found it enlarged; apex beat in 6th interspace and at least an inch outside the mammary line. On percussion found the heart extended to right border of the sternum and from the second to the sixth interspace. Auscultation at apex elicited a rough, prolonged presystolic murmur which was not transmitted, which indicated a mitral stenosis. At second interspace on the

right a double murmur—a systolic and a diastolic—due to an aortic stenosis and regurgitation was heard. The left ventricle was so much enlarged that there was a very marked epigastric pulsation, in fact his left chest would rise and fall with the heavy beat of the heart.

May 25th. Pulse 76, regular. As the bowels had not moved since the 23rd, a bottle of citrate of magnesium was ordered. About 9 P. M. an attempt was made to use the bed-pan, but that seemed so difficult that his father lifted him up into a sitting position and held him there for 2 or 3 minutes, then laid him down, whereupon he immediately collapsed. Pulse weak and fluttering, impossible to be counted. He was given whisky and strychnine nitrate, gr. 1-30, hypodermically. Heart remained very irregular till 3 A. M. on the morning of the 26th, when it dropped down to 88 beats per minute, but the pulse remained very tense. Sensation returned on the morning of 25th, but was much delayed; could not feel the prick of a pin, but if a mass of skin was pinched between the fingers he would respond in 10 to 12 seconds.

May 26th. Remained about the same all day; pulse slowed down to 78 and bowels moved again.

May 27th. Pulse was 76 and regular. May 28th, spoke one or two words. May 29th. Pulse 72; gave $\frac{1}{2}$ bottle magnesium citrate and calomel gr. 1. May 30th. Gave another bottle of magnesium. From 3 P. M. to 1 A. M., he had seven stools. Gave pulv. opii, gr. $\frac{1}{2}$ and camphor gr. $\frac{1}{2}$, to check bowels.

June 1st. Pulse 72. Dr. McCullough, of Steubenville, Ohio, was called in and confirmed diagnosis and suggested the use of tincture of strophanthus, gtts. v. every 4 hours.

June 2nd. Found patient lying on side for the first time. Pulse again irregular. Could move right leg slightly. Ordered syrup of hydriotic acid f5 1, three times a day.

June 3rd. Could say a few words at a time, also could use the deltoid and biceps muscles of right arm.

June 4th. Pulse regular again. Stopped strychnine nitrate.

Here I ceased attendance and the following data were kindly furnished by Dr. Kirchner:

June 10, could extend index and middle fingers.

June 12, could extend but not flex all fingers.

June 13, could use flexor muscles.

June 15, sat up in reclining chair all day.

About 11 P. M., while straining at stool he collapsed again. Pulse getting irregular and lungs filling up with mucus. Gave strychnine nitrate gr. 1-30 at 11 P. M. and 1 A. M. At 3 A. M. Dr. Kirchner examined the rectum and found it filled with a large hard fecal mass which he removed and gave patient infusion digitalis f5 2, every 3 hours.

June 29th. Patient was removed to his home at Jewett, Ohio, on a cot, Dr. Kirchner accompanying him. The trip was made very well. He was feeling well on the morning of the 30th when Dr. Kirchner returned.

The rest of his history is told in a letter I received from his father, of which the following are extracts:

"He gained steadily in strength and use of his limbs since his arrival at home and could stand alone. Believed he could walk but did not attempt it. His speech improved very much and he could talk fairly well. We continued the treatment of Dr. Kirchner.

"About July 13, his feet began to swell considerably and we gave him a teaspoonful of epsom salts every evening. His bowels moved about once a day. On July 19, his feet were very much swollen and I gave him two teaspoonfuls from 3 A. M. to 8 A. M., after which had 3 passages.

"The swelling in his feet had gone down considerably. He took a short sleep, then asked to see a letter from a friend which

came the night before. He tried to read it, but finally gave it to his sister to read to him. At the close he tried to say 'Roland', but did not succeed till he tried the second time. After telling his sister that he understood most of the letter he expired suddenly."

I wish to beg the society's pardon for going so much into detail, but Dr. Kirchner and I considered him an interesting case. Among the points were the rapid and total disappearance of the embolus in the brachial artery. The aphasia, which disappeared when the stomach was relieved of gas, then in a few hours the sudden return of aphasia and paralysis. Then the gradual return of sensation, motion and speech, and finally the loss of compensation and sudden death.

THE SURGICAL TREATMENT FOR SOME FORMS OF DISEASE OF THE PROSTATE GLAND AND SEMINAL APPARATUS.

BY G. E. BENNINGHOFF, M. D., OF BRADFORD.

[Read before the McKean County Medical Society, at Bradford, Nov. 2nd, 1898.]

Anatomically and physiologically, the prostate gland is associated with the other sexual organs, the testes being the essential while the vasa deferentia, seminal vesicles, urethra, penis, prostate and Cowper's glands are the accessory organs. There would seem to be very good and valid reasons why they should be associated therapeutically as well, because in a number of diseased conditions, treatment applied to one organ is curative of disease in another. Removal of the testicles for enlarged prostate gland may be mentioned as an example.

That disease of the sexual organs is common enough, needs no argument from me, that it bears, in frequency, a direct relation to the frequency of gonorrhœa and that it is almost always a sequel of that disease is well proven. That disease of the prostate

gland, especially enlargement of that organ, is also too common, will go without saying. That gonorrhœa is the usual cause of the enlargement of the prostate gland, is also an accepted fact. Thus far then, we have to deal with well proven facts, but beyond this point in the consideration of the subject, we have an extensive field for theory and experimentation.

At the present time the broad answer "gonorrhœa" as a cause of prostatic disease, while in the abstract true, really means nothing when considered from a therapeutical standpoint. We should therefore ask ourselves, How does gonorrhœa usually cause the enlarged prostate gland? The old answer that it is a result of an acute gonorrhœal inflammation of the gland during an attack of gonorrhœa will hardly do, because very many cases of enlarged prostates do not give a history of having had acute prostatitis, in fact a careful inquiry into these cases will more frequently elicit the fact that during the acute attack of gonorrhœa, there was present either epididymitis or orchitis, or both, on one side or on both sides, and a verification of this fact can usually be determined for the enlarged epididymis, testicle or cord will be found present years after the acute attack has passed away. It would thus appear that it is most frequently through the other sexual organs, being the first diseased, that subsequent disease of the prostate gland follows.

Not only have we to think of enlarged prostate as a result of disease of the other sexual organs, but as well must we consider disease of these organs as it affects them only. We are all too familiar with that long chain of symptoms beginning with an acute attack of specific urethritis, possibly a first infection, in which case we usually expect if the patient is tractable that rapid recovery will result. All goes well for a few days, when he complains of pain in the region of the prostate gland, side of the bladder, cord, epididymis, or in the essential organs, the testicles, or as is often the case, all of the

sexual organs will be painful, frequently on both sides. There will be present, elevation of temperature, rapid pulse, headache, pain in the limbs and frequent chills; in fact all the symptoms indicating sepsis, and in truth that is what we have. Not usually a general sepsis but a local one extending from the meatus to and into the testicle. The prostate gland is enlarged only slightly but is very painful to the touch. The enlarged and painful seminal vesicles can easily be located through the rectum, the spermatic cord enlarged and painful, epididymis and testicle enlarged and also painful.

After many weeks, and in some cases many months or years, the patient partially recovers, but not usually completely, for there remains an enlarged and painful epididymis, or cord, or suppurating vesicles which continue to discharge through the ejaculatory ducts into the floor of the prostatic urethra and this may be one of the causes of enlarged prostate later on, but it is through the sympathetic irritation produced by the epididymis and vasa deferentia and vesicles that is the most frequent cause. Thus it would seem that our duty to treat, in the best possible way, the condition which is continuing the disease, not only of the epididymis, vasa deferentia and vesicles, but also the prostate gland.

From operations on a limited number of cases, I am led to believe, that after the epididymis has been inflamed, enlarged and hardened, that that organ has no function as far as fecundity is concerned, but still retains its power as an organ to irritate others. I have removed it successfully for the cure of enlarged prostate, for chronic prostatitis, for the so-called gleet, and for gonorrhœal disease of the seminal vesicles. In one case there was an enlarged prostate, chronic urethritis and diseased seminal vesicles, on the corresponding side of the diseased epididymis. The epididymis was removed and there was a rapid and complete recovery. I have removed both epididymi for the same disease with complete recovery. All func-

tions being present as before the operation. The patient enjoys life, can co-habit, and has a complete emission. He of course passes no spermatozoa but does pass all the other parts of semen. Nor do I believe that prior to the operation did he have any spermatozoa. Is it not probable that removal of the epididymis will cure prostatic disease as well as removal of the testicles? If so, is it not much better to perform an operation which leaves the testicles as well as the copulative functions?

I know of no other operation in surgery in which it is so difficult to obtain the consent of the patient, as that of removal of the testicles, and usually the dread of the patient having it done causes delay—until secondary disease of the bladder causes the final procedure to be a failure. Not only is this operation indicated for the cure of enlarged prostate, but it is indicated for the cure of disease of the seminal vesicles. In those cases in which we believe the disease is due to chronic gonorrhœa, removal of the epididymis and with it all diseased portions of the vasa possible, will usually produce a cure. In these cases, the operation is followed by a very free discharge per urethram, due probably to relaxation of the ejaculatory duct.

Summary. Enlargement of the prostate gland is generally due to gonorrhœal disease of the seminal ducts, vasa deferentia, or epididymis, on one side or both; any part of the seminal vesicles or vasa deferentia being diseased, the epididymis always being so. Diseases of the epididymis, one or both, produces sympathetic enlargement of the prostate gland, which recovers upon removal of the diseased epididymis. Disease of the epididymis seems to be active in continuing disease of the seminal tract, at any part, and removal of the epididymis has a favorable effect in curing the same.

Sclerotic epididymis, like an indurated and hardened post-cystic ovary, has no active or passive function, except as an organ of irritation, and its removal, while arresting

the irritation, does not change the copulative functions. When disease of the epididymis is restricted to one side, that epididymis alone should be removed; when to both sides, both epididymi should be removed. The testicles should be spared at least until after trying the above measures and failing to cure.

A CASE OF ENCEPHALIC TRAUMATISM.

[Read at a meeting of the Mifflin County Medical Society, October 11, 1898.]

By WALTER H. PARCELS, M. D., OF LEWISTOWN.

A careful study of the following case may help in diagnosing obscure brain injuries; and at the same time, be an argument in favor of resorting to a surgical operation, as bold as it is novel, for the removal of serous effusion on the brain.

James A. E., aged 54 years, freight train conductor, was knocked from a car moving at the rate of about 35 miles an hour, on the afternoon of September 15th, 1898, and died on the morning of October 7th, 1898, twenty-two days after the receipt of the injury.

He was sitting in the doorway on the side of the car upon a small box; this so-called "grain car" had a door hinged at the top of the door frame, and swung up with its other side fastened to the car roof by a hook, which was broken and the door carelessly fastened by a nail.

He was found a few minutes after in the ditch, by the side of the track, lying perfectly still with his left arm thrown up over his head. When lifted, however, he groaned and said: "Oh, my shoulder." He was placed on cushions in a baggage car and brought home, probably 35 miles, Dr. Wagner, of Adamsburg, Snyder County, accompanying him, and using all means at his command to restore consciousness.

I saw him upon his arrival, probably two hours after the receipt of the injury.

Dr. Wagner said that at one time he had thought that life was practically extinct; for

the coma was complete, breathing very shallow and pulse nearly or quite imperceptible, though a little later he succeeded in getting him to swallow a little whisky and when he seemed in terrible pain, a small dose of morphine.

As we attempted to lift him from the car he partly opened his eyes and looked steadily at me for an instant and closed them again; and upon that single look I based largely my diagnosis, for I thought that look meant recognition and the case was not hopeless.

He groaned and cried out with pain frequently, whenever we moved him, and said, "My shoulder," several times.

The pulse was rather slow and exceedingly weak. The temperature not taken, but it was surely below normal, face pale, hands and feet cold; in short well-marked symptoms of severe shock.

Careful examination revealed scalp wound one inch long and scarcely through the integument, over left parietal bone; subglenoid dislocation of left humerus; and on the forearm (left), inner side, two inches below elbow joint, were two holes about three inches apart, large enough to admit the end of my finger and half an inch deep, from which blood had flowed quite freely.

Left shoulder and posterior part of upper portion of arm seemed much bruised, but no other injury whatever was found.

Diagnosis, severe concussion of brain, without fracture of the skull; prognosis doubtful owing to chance of possible inflammatory action.

Aided by Dr. Wagner I very easily reduced the dislocation, though not until we had given a little ether; every attempt to move the left arm causing him to cry out with pain, which the coma, great as it seemed to be, was not sufficient to prevent him from feeling.

The wounds on the forearm were dressed antiseptically. I remained a couple of hours or so with him, at the end of which time he seemed to be rallying somewhat, but was

becoming very restless with incoherent talk and evidence of severe suffering, for which we gave codeine.

I went home with the understanding that I should be summoned if he got worse before morning.

Called about three hours later (10 P. M.) to find the restlessness increasing and the incoherency and evidences of pain more marked.

Wishing to get rid entirely of the morphine, I gave nothing but potassium bromide in full doses and went home, repeating my instructions about calling me if he did not get along as he should.

When summoned four hours later, (2 A. M.) I found a state of affairs difficult to describe; the bad symptoms had increased in severity and I had simply a madman on my hands who required the constant efforts of two or three men to hold in bed; he, being a large, strong man, was very difficult to control.

Reaction had taken place; temperature not taken, but it was a little above normal; pulse 100.

He reached his hand to me, called me by name, said he was glad to see me and the next instant went off into active delirium that was frightful to look at.

Whatever the intracranial lesion, it was plain that this frightful struggling would aggravate it; so I determined to put him to sleep if possible, and gave morphine hypodermically $\frac{3}{4}$ gr., and 15 minutes later he was sleeping quietly, breathing naturally and directly began to perspire freely.

Next morning he was still sleeping soundly, though easily awakened and recognized me and others in the room, then went off into a deep sleep again.

I had ordered the bromide given when awake and will briefly say here that the bromide, often combined with iodide of potassium, was given continuously when he was awake up to the time the approach of death rendered him unable to swallow.

Pulse was 104, temp. $100\frac{1}{2}$; morphine not repeated.

At my evening visit found him nearly as wild as ever. Effects of the opiate had lasted about 14 hours. Repeated it (using only $\frac{1}{4}$ gr.), and he slept all night, perspiring freely; temp. $101\frac{1}{2}$, pulse 116.

Next morning pulse and temp. the same and the mind seemed a little clearer, though there was delirium most of the time, he wanting to get out of bed, wanting to go home, wanting to be let go to his work wanting to be reported too sick to work and fighting again the battles of the civil war; he having been a soldier who saw much active service.

Gave hypodermic again ($\frac{1}{2}$ gr. only) and they got along fairly well that day.

Evening visit found him wild again, pulse 108, temp. 101 only; gave $\frac{1}{4}$ gr. morphine and calomel tablets and later Epsom salts to move bowels.

Morning visit found that he had rested fairly well, found temp. normal and pulse 96, and from that until his death, temp. was always normal save one evening when he had been unusually restless I found temp. 2.5 of a degree above normal; the increased temperature so far being due I thought to over-reaction simply, and upon this absence of fever I based my strong belief that there was no meningitis, no inflammatory action of any kind.

When not controlled by the opiate he tore his shirt off, tore his drawers off, tore the dressings from the wounded arm so often that I finally abandoned them altogether; would continually kick the bed clothing off and expose himself no matter who was in the room.

I tried the migraine tablets without avail; but it was clear that, after the morphine and a good sleep, he would wake up more rational; and after being awake a few hours the mania would become so violent that constant, forcible restraint was necessary; and it seemed marvelous how little morphine was necessary at a dose; after the first two

or three days only $\frac{1}{2}$ gr. morning and evening, sometimes 1-16 only, sometimes none in the morning.

This I thought a diagnostic point, the morphine causing contraction of the capillaries of the brain and thus relieving the passive congestion of these vessels which I believed had existed in addition to the concussion ever since reaction had taken place, and that was why we did not have normal intellectuality.

His mental condition all along was a psychologic study of much interest.

At times he was perfectly rational and in a moment his talk showed that he was lost in a maze of his own imaginings; and it was exceedingly difficult at times to draw the line between delirium and normal mentality.

He took a sufficient quantity of nourishment, gained strength enough so that he could nearly or quite stand on his feet and the mind was restored sufficiently that he told us of his own accord how the accident happened, except that he persisted that he did not go out of the car.

"I would have gone when the door hit me," he said, "only I clutched to a box and saved myself; if I had gone out with the train running like that it would have broken my neck."

This proved I thought that the door hit him on the shoulder, not on the head, that the concussion and mental darkness came when he struck the ground, the box he had pulled along with him and he had probably fallen upon it, for it was crushed in and this had broken his fall somewhat and thus prevented instantaneous death.

He always, when I asked him, complained of pain in the head, which he said was the most severe in the posterior portion.

The tongue got clean, the pulse got as low as 78, but generally was from 80 to 90 per minute, and his condition was such that the outlook seemed more hopeful; for as his family expressed it: "He is a little better each day, though the improvement is very slight;" and yet when at the best the

normal condition of the mind would last only for a few minutes at a time and the restlessness would commence again, the kicking all the clothing off and ten minutes later he would inquire why he must lie there without any shirt on, though he had torn the shirt off himself.

He seemed always in his delirium to be pulling at somebody or something and in this way tore off several shirts, tore up a number of handkerchiefs with hands and teeth, but in other respects the delirium seemed like that of typhoid fever, or more like delirium tremens.

The slight improvement continued till the fourteenth day after the receipt of the injury, and then for four days we noted no change either way, when there commenced that train of symptoms which seemed to make his case a hopeless one.

When first brought home he urinated in bed once only, but from that time till the eighteenth day he would tell the nurse when he wished to evacuate either the bladder or the bowels; but on this eighteenth day he wet the bed and seemed a trifle less rational and the pulse rose to 96, temp. normal.

Just here let me stop to inquire what really was wrong with this man, why did he not get better? I had watched the case carefully for 18 days and noted every symptom. I did not believe the skull was fractured, did not believe that there was any contusion of the brain, the mind was too good at times for that; did not believe that there was at any time any inflammatory conditions within the brain of any kind, because of absence of fever; did not believe that there was a blood clot, absence of paralysis proving this. What was wrong then? I fully believed that the case was one of severe concussion and that there was passive congestion of the capillaries of the brain.

There had been great swelling and discoloration of the back part of the left shoulder and of the upper portion of the left arm, and I had tried to explain to his family my

view of the case by saying that the smallest bloodvessels in the coverings of the brain were engorged black like the shoulder and arm; and since the discoloration was leaving these parts and the holes were already healed, if nature would only do as much for the brain, we still had grounds for hopes of recovery.

There was very early in his case that horrid fetor of the breath which all experienced physicians recognize as indicating brain trouble, but for fully a week it had been scarcely noticeable and now on this terrible 18th day it returned and he also became more stupid, symptoms of compression of the brain plainly supervening. I believed that the compression was caused by effusion, serous of course, and so did Dr. Rinehart of this city, who saw the case about this time.

Why not evacuate this serum by making a small hole with a trephine through the occipital bone between the center and mastoid process? The operation I think has never yet been performed under these circumstances, but why shouldn't it be? I recall the time when the operation of tubing the pleural cavity was not considered feasible, reputable surgeons hesitated at the thought of letting air into a serous cavity. I explained the matter to the family of my patient and they readily gave their consent; but I did not operate simply because there was a question of life insurance involved, and in case of death, this claim might be invalidated, there being no recognized authority for this operation.

I simply stood by, and, as the serous tide rose, I saw my patient gradually become more stupid, the pulse and respiration become more frequent until death came without convulsions.

I happened to be at his bedside when he died and felt that trephining ought to have been done as a sure and quick way of relieving this mechanical compression; so similar to a child dying from membranous croup, a mechanical obstruction to respiration; so this serous effusion was a mechanical ob-

struction to the brain in its efforts to perform normally its regular functions.

This large, strong, handsome, brave soldier I first saw in the summer of 1864, when he crossed the North Anna river and helped to swing the guns of his light battery into firing position, in the very teeth of a sheet of flame from the enemy's line of battle; and now I watched him again as he acknowledged defeat before that enemy who accepts only unconditional surrender, and as he slowly crossed that other river to "rest we trust in the shade of the trees beyond."

Postmortem four hours after death in the presence of Drs. Rinehart, Harshberger, Clarkson, Sweigart, Hunter and Brisbin, all of this city.

Before opening the head I gave the Drs. present a brief history of the case and said that I had watched it so carefully that I felt reasonably certain that the autopsy would verify the following eight points in the diagnosis, viz: absence of fracture of the skull, absence of blood-clots, absence of meningitis, absence of cerebritis and absence of pus; presence of severe concussion, presence of capillary congestion (passive) and above all, presence of serum.

These eight points were all verified, though there was some difference of opinion as to the amount of the serum, estimates running all the way from two to four ounces; I think two ounces and a half a conservative estimate.

It would probably be more nearly correct to say that the passive capillary congestion and serous effusion were evidences that the case was originally one of severe concussion, the brain being normal in all other respects.

The Treatment of Diabetes.—Every week some journal advocates a new or modified treatment for diabetes. In the *Medical Record*, Dr. Abraham Mayer makes a preliminary report of his success with the use of mercury bichloride in this disease, and records a number of cases both improved and cured.—*Maryland Medical Journal*.

SEPSIS AND THE PROPHYLAXIS OF SEPTIC DISEASES IN MIDWIFERY, IN OUT-DOOR AND COUNTRY PRACTICE.

BY R. J. GROSSMAN, M. D., OF BUTLER.

[Read before the Butler County Medical Society November 15, 1898.]

In this paper it is understood that septic diseases include the four clinical divisions of so-called puerperal fever, viz: fermentation fever, sapræmia, septicæmia, and pyæmia, all except the first named being the direct or indirect result of bacteria.

It is in place, and would almost seem necessary, that I should offer an apology for writing a paper on this subject upon which so much literature is to be found both in books and journals; but it being no longer a disputed question, but an established fact, that at least three of the above named diseases are due to micro-organisms or their products, whether the microbe is introduced from without or generated within the patient, the obstetrician has responsibilities to face, and therefore it behooves us to give the subject close consideration. Reliable statistics show us that since antiseptics have been introduced into hospital obstetrical practice, the mortality has been reduced from 10% to less than $\frac{1}{2}\%$.

As we now assume that the cause of puerperal fever is microbic in its origin, we are prepared to comment. We have the right to criticise the obstetrician if we can find any fault in his technique that would lead to or permit puerperal infection. With our present knowledge and our present conditions outside of hospitals, absolute asepsis is out of the question. The man who takes the position that the physician is responsible for every case of sepsis certainly speaks without due consideration. On the other hand, the physician should be responsible for any puerperal infection that may occur from his neglect or lack of proper knowledge in conducting a case of confinement.

When we come to consider the numerous ways by which sepsis may be conveyed to a puerperal woman, we are confronted by an overwhelming task if we attempt to carry out absolute asepsis. In out-door practice, as we all well know, it is a common thing to be called to a case of confinement without any knowledge of the case beforehand. We often find a patient in a bed not surgically clean, but speaking in a cleanly sense, extremely dirty. With dirty sheets and dirty clothing about her, the patient and friends offering as an excuse, the argument "We do not want to clean up until all is over, as everything will be dirty when we get through."

Now this bed designed for the lying-in woman's couch, perhaps has been the bed on which has lain a child who has had scarlet fever, diphtheria, purulent otorrhœa, or some other infectious disease. If an obstetrician were called to attend a woman on such a bed, and following labor, he were to have a septic disease, without absolute knowledge of his negligence I would feel inclined to excuse him on the ground, that there was reason for trouble beyond his control. Likewise a patient suffering from some of the pyogenic pelvic diseases, is subjected to all the dangers of septic infection. We can imagine many other ways too numerous to mention by which poison may get ingress to a patient.

I offer these arguments against the opinion of the man who takes the position that the obstetrician should be made responsible for any and all ill sequelæ of labor due to sepsis. On the other hand it is worthy of notice how much a woman may be exposed to poison and show no manifestation of it. To bear out the above statement, I will give some circumstances that have presented themselves to me.

Case 1. A young unmarried woman called at my office and gave me the history that she was at that time pregnant, and had gonorrhœa. On examining her I found her statements to be correct with re-

gard to both conditions. In a short time, probably within ten days. I was called to see her in labor. She had taken sick in the woods, and finally obtained shelter in an old house; her couch was an old bed, extremely dirty. When I arrived I found that a six months foetus had been delivered. I proceeded to deliver the placenta, which I accomplished with only a little manipulation. She made an uninterrupted recovery.

There is at present no question in the minds of the medical men that scarlet fever, diphtheria and erysipelas are dangerous diseases to come in contact with a puerperal woman. Yet to show what may occur without any evil consequences, I will cite some experiences along that line.

Case 2. I was called to attend a German family and found several children suffering with diphtheria. In the midst of the diphtheria the mother went into labor which continued eight or ten hours. Some of the children had occupied the bed immediately before the mother's occupying it. The next day when I returned I found a child in the midst of diphtheria in bed with her. The woman made a rapid and complete recovery without any signs of sepsis.

Case 3. Was rather a difficult one. There was, if my memory serves me rightly, diphtheria in the house. That forenoon I had seen at least one-half dozen cases of diphtheria. When I came to the woman I found that the child had been delivered but the placenta had been retained. A teaspoonful of the fluid extract of ergot had been given. The whole placenta was inside of the uterus, and the os was tightly grasping the cord. I waited awhile but saw no sign of a better condition of things. The woman was thin, but muscular and courageous. By manual pressure, first introducing a finger, and afterwards the whole hand, I succeeded in dilating the os, and continuing the operation without removing my hand I succeeded in delivering the placenta. The whole operation occupying one and a quarter hours. The woman

made a complete and uninterrupted recovery.

Case 4. I was called by another physician to assist in removing a placenta. I found a case of scarlet fever in the same room that the woman occupied. On examining the patient I found the placenta within the uterus. The uterus was relaxed, and the woman was almost exsanguinated. I made an attempt to deliver the placenta, but failed. I advised giving a dose of ergot which was done immediately. By manipulating the uterus externally and internally we began to get contractions, and in a short time we got, I believe, an hour glass contraction grasping a part of the placenta. The placenta was not removed for forty-eight hours, and then under the effects of chloroform. Following in this case there was a distinct febrile disturbance; the pulse ran up to 150 or 160. The temperature went up to $103\frac{1}{2}$ or more; but after five or six days all symptoms disappeared, and the woman got well. Now whether the reaction from the hemorrhage, the retention of the placenta for forty-eight hours, the manipulation of the physicians, or the scarlet fever was responsible for the febrile trouble I am unable to say. I do not mean to convey the idea by the cases that I have cited, that the dead house is a suitable field for capital operations, or that the pest house is the place for lying-in women, but my object is to draw the lesson that we must not allow ourselves to be drawn into neglectful habits such as the foregoing delusive circumstances might prompt us to believe were perfectly safe.

Whatever criticisms I make or suggestions I offer, I hope will be taken in the right spirit; for however feeble they may be, they are intended for the good of the profession and the good of humanity. Notwithstanding all that has been said and written in the last few years concerning sepsis and antisepsis, the cleansing of hands, the trimming and cleansing of finger nails, the use of antiseptic solutions, the cleansing

and applying of antiseptics to the genitalia, the cleansing and sterilizing of instruments, etc., I have repeatedly seen physicians do what to me seems to be thoughtless and careless in these days of antiseptic midwifery. For instance: Many physicians after properly cleansing and disinfecting their hands allow the hand to become contaminated while on its way to make the necessary examination. I have seen physicians take their hands out of an antiseptic solution probably in an aseptic condition, but before the hand reaches its destination it lifts the bed-quilt, or touches some other object in the room. There is an old-time custom that demands severe criticism and which I might mention right here. Formerly, doctors did not carry a lubricant but depended upon its being furnished at the home or house of the patient. Perhaps all of us know how lard comes to the doctor at such a place. A woman or girl is usually present to wait on the doctor's call. She is directed by the patient where she will find lard—usually "good old lard." The servant gets a small dish and a knife, and to be sure that they are clean, she wipes them well with an old dirty dish-cloth containing micro-organisms enough to kill a thousand people if properly administered. Thus the "good old lard" comes to the physician containing all the bacteria that a knife and a dish can catch from a filthy dish-cloth.

As I understand, every doctor who writes a paper, by virtue of his permit to do so, has the right to be egotistical, and as this seems to be the place for my egotism, I will proceed to tell what I do. Assuming that I am called to a case of confinement, if time permits, the first thing I do in the way of my professional duty, is to trim my finger nails down as closely as I can to the flesh. I scrub my hands with a brush in hot water with soap, scrubbing particularly about the nails; after my hands are thoroughly cleansed I rinse out the bowl or basin, and make a solution of bichloride of

mercury, 1-1000. After bathing my hands in the solution named, I wash the thighs, perineum, and the external genitalia of the patient with the same solution, applied with a pledget of cotton, passing the cotton within the folds of the labia down to the os vaginae. If I have been in contact with any suspicious case, in addition to the above preparation, I stain my hands with a saturated solution of permanganate of potash, and bleach it off with a saturated solution of oxalic acid prior to touching the patient.

After this is done, I add creolin to the bichloride solution, not for its aseptic properties, but for its lubricating properties, which is recommended by approved authority, but which I have not found satisfactory.

Again, bathing my hands in the bichloride—creolin solution, I consider myself and my patient prepared for making a digital examination. I have already on a former page made mention of the way a physician may allow his hand to become a second time contaminated while on its way to make the manipulation. I have so far made this a fixed and unalterable rule, that after my hand leaves the antiseptic fluid, it absolutely touches nothing until it comes in contact with the labia of the patient. It seems to me that if an obstetrician allows his hand destined to make the examination, to come in contact with his beard or clothing, or the patient's clothing, which bacteriologists tell us are covered with myriads of bacteria, he is guilty of gross carelessness.

During the whole course of labor, I keep a mercuric-creolin solution on hand and occasionally with a pledget of cotton bathe the external genitalia. If the forceps are to be used, I boil them for a short time in a suitable pan, such as may be found about every house. After they are boiled, I wrap them up in a clean towel or cloth that has been wrung out of a creolin solution, wrapping the blade to be applied last in the first part of the towel: so that when the towel is unfolded, the first blade will turn out first. The instruments are lubricated by

recently sterilized lard. The lard can be sterilized very easily and quickly by putting it into a small dish, and allowing it to come to the boiling point on the stove. I have already intimated that the creolin emulsion as a lubricant to my mind is not satisfactory. I have used it for four or five years, but owing to dissatisfaction I intend to abandon it, (at least for a while) as a lubricant. What to my mind seems an ideal plan, and what I intend to try, is the following:

Take clean fresh lard, and add to it a mild non-irritating antiseptic, sterilize it by heat, and while boiling hot pour it into $\frac{1}{2}$ oz. tin boxes, close the boxes while the lard is still hot and let one of these boxes be a part of the armamentarium of the obstetric bag. Open one box for each case of confinement.

After the third stage is completed, all soiled clothing is removed, and the patient is washed with a 1-2000 or 3000 mercuric solution. If the bed and surroundings are in any way suspicious, a cloth wrung out of a mercuric solution should be applied to the vulva, and a new one re-applied as often as the former one becomes filled for the first forty-eight hours.

Now comes the debatable question: Should a healthy vagina be irrigated with an antiseptic before, during, or after labor as a prophylaxis against sepsis?

I am inclined to oppose the practice of irrigating a healthy vagina, in a healthy patient, in a normal labor, during labor or the puerperal period. Nature has wonderfully provided ways and means of protection for all animals and all parts of animals. The rabbit is gifted with locomotor power usually sufficient to enable it to escape from its enemies; the cat is provided with claws so that she can climb out of the reach of her enemy, the dog; small birds are quick on wing, so that they are able to dodge the birds of prey. Thus we might run over the whole catalogue of animals and find a way of defence or escape for all. Reasoning from analogy, we have the right to believe that the God of Nature has not forgotten the

human vagina, but rather we are inclined to believe that He has provided it with means of defense, let this defense be called physiological resistance, phagocytic power, or any other name by which you may choose to denominate it.

It appears reasonable to suppose that while we are washing and irrigating a healthy vagina, we are likely to carry into it malicious bacteria, and at the same time by our washing out the leucocytes, the phagocytes, and the natural secretions, we deprive the vagina and the birth canal of their natural protection, and thus we leave the portals open and unguarded for the advancement of the enemy. I believe that statistics will bear out the following statement: Better evidence in opposition to douching than any theory can provide is proven in the fact that clinical experience gives less morbidity and mortality without douching than with it in normal cases.

It is quite different in a pathological condition such as is found in gonorrhœa, or even in simple vaginitis. In a pathological condition the natural resistance is probably already over-powered, and thorough cleansing is emphatically demanded.

A few more words concerning the toilet:

It is the duty of the medical profession to educate the laity, with reference to preparing the bed, and every other thing of importance that is entrusted to the laity. Many times we have heard the expression, "Any old dress or skirt, or hap, will do to put under her." When such a remark is made, we should be prompt to modify it by saying, "It will do provided it is perfectly clean." Old skirts and dresses that have been worn, containing dust from the street and the surface of the earth, placed under a puerperal woman, would appear to be a convenient way of conveying the poison of tetanus to her, as surface dust is said to be highly impregnated with the tetanus bacillus.

Before concluding my paper, I wish to say a few words with reference to tampons.

When it is desirable to use a tampon, it is very necessary that the tampon is, when applied, strictly aseptic. By the method we employ, it is quite easy, and certain to apply an almost, if not absolutely aseptic tampon. The entire "modus operandi" is included in four steps: First—The preparing of the tampons. Second—The preparing of the instruments. Third—The preparing of the vulva and vagina. Fourth—The application of the tampons. The tampons are prepared at the office. Take a glass jar with a lid that screws on; this jar can be boiled, but we usually wash it outside and inside with a strong solution of bichloride of mercury.

The tampons are small bunches of cotton, each bunch is tied with twine. As many of these bunches may be prepared as desired, usually about one and one-half dozen are sufficient. Take some shallow vessel that will hold a quart or more, fill it with water into which place the tampons, speculum, and dressing forceps; allow them to boil together for five or ten minutes. Then take the dressing forceps and lift the tampons from the boiling water, and drop them into the jar which has already been sterilized. After they are all in, add creolin so that they are in a weak creolin solution. Screw on the cap, and they are not to be opened until all things are ready for their application.

The speculum and dressing forceps already sterilized by the boiling, are wrapped in a clean towel, and are placed in the satchel, and are not to be opened until the time they are to be used.

The patient is prepared by washing the external parts with a bichloride solution; and if convenient, give a creolin douche. If not convenient, apply the speculum, and with cotton in the dressing forceps, sponge the cervix, the vagina around the cervix, and the os with a creolin solution. Now having the hands clean and fresh from the mercuric solution, pick the tampons from the jar with the forceps, squeeze them dry with the hand and apply them until the vagina is packed. By this method I am quite certain, the tampon is almost aseptic when applied.

There may be a question concerning the aseptic condition of the vagina; but for practical purposes, in a healthy vagina I believe it is sufficient.

I might add in conclusion, that it may seem tedious and laborious to carry out all the steps enumerated in this paper; but, after we have adopted a definite plan and are perfectly familiar with the plan ourselves, we do what we regard as our professional duty without feeling it an inconvenience or a painful task.

Secondary Department of Official Transactions.

[Paper read at the meeting of the Medical Society of the State of Pennsylvania, at Lancaster, May 19, 1898, already published elsewhere.]

SOME EXPERIENCES IN SURGICAL GYNECOLOGY.

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Successful work in surgical gynecology requires the careful solution of certain problems which constitute most important factors in the attainment of the results desired.

a. The first and most important point in the management of a gynecological case is the making of a correct diagnosis. Until gynecology, as one of the most important branches of medical science, is given due prominence in the curriculum of medical schools, both in their didactic and practical courses, the generality of the medical profession must frequently fall into grave error by failing to recognize the nature of many internal maladies from which their patients may suffer. The vague terms "pelvic peritonitis," "pelvic inflammation," or even "inflammation of the bowels" have been employed to cover a class of symptoms arising from very different causes. The history of an attack of inflammation does not give sufficient clue to the nature of the malady that may exist. Careful examination of the pelvic organs by an experienced finger can

alone enable one to determine whether the uterus or its appendages, or the surrounding structures are chiefly involved in any given case.

b. A diagnosis being made, the next point to determine is the line of treatment to be followed—whether operative or non-operative. Many important considerations must enter into the formation of one's decision on this point. Certain classes of cases, such as ectopic gestations, accumulations of pus in the pelvis, etc., will not brook delay. Prompt and efficient action is indicated. Even here, however, it is fruitless to snatch a patient from a threatened danger only to plunge her into still greater peril by submitting her to the performance of a grave operation by an unskilled hand, or under conditions which defy the requirements of aseptic surgery.

c. The third consideration, therefore, concerns the choice of operative methods, including the preparation of the patient, the conduct of the operation and the after treatment of the case.

d. Fourthly, in order to keep our mortality list low, we must give due heed to contra-indications to operation, that may exist in the general condition of the patient, or in marked disease of any other organ, which may affect the result. So often do we find some disease of other organs in patients requiring operative treatment that the weighing of a patient's chances in any given case, often requires a very nice judgment.

Temporary conditions of acute pelvic inflammation due to nonseptic causes we find to respond readily as a rule to the ordinary palliative measures for allaying inflammation; such as the use of salines, rest in bed, counter-irritation, etc. If promptly treated they are apt to get well, without leaving any permanent lesion behind them. Palliative measures, when conditions warrant them, should always have a fair trial before operative procedures are resorted to. When, however, the history of a case and careful and

intelligent examination prove a pelvic malady to be either an immediate menace to the life of a patient or a source of persistent ill-health or recurring disease, it is, I believe, poor practice to waste time in prolonged palliative treatment when an exploratory abdominal incision can clear up any doubt and prepare the way for effective management.

A brief summary of the operative work recently done in my own service at the Woman's Hospital of Philadelphia, with some comments upon the cases may better illustrate some of the points I desire to make. The bacteriological examinations required in this work, were kindly made for me by Dr. Lydia Rabinowitsch, bacteriologist to the hospital; the pathological examinations by Dr. Marie K. Formad, its pathologist. I am indebted also for much valuable aid in the management of my cases to my assistants, Dr. Marie K. Formad and Dr. Frances Hatchette, of Philadelphia, and Dr. Adelaide M. Underwood, of Lancaster. The interest and assistance of Dr. Ella B. Everitt, chief resident at the hospital deserve similarly, my appreciative acknowledgment. The abdominal cases operated upon were as follows:

Case I. *Femoral Hernia*. Radical operation, followed by cure. The patient was a young woman obliged to make her living by sewing. She had worn a truss for two years but experienced so much pain and discomfort from the pressure it caused, that she preferred operative procedure.

Case II. *Double Pyosalpinx* (gonorrheal). Retroverted, adherent uterus. Repeated attacks of pelvic peritonitis. Bilateral removal of appendages. Recovery, followed for a time by a small sinus at the site of the drainage tube, which closed later. Patient was brought to the hospital suffering from acute attack of pelvic inflammation the result of leakage from the greatly distended tubes.

Case III. *Ovarian cystoma*. Removal—Recovery. This patient had been ope-

rated upon by myself for a similar condition of the left ovary and tube just about one year before. The right ovary at that time was not thought sufficiently diseased to warrant removal, especially as the patient desired to retain it, if possible. The few cysts it contained at that time were punctured. The rapid development of trouble in this case illustrates the proneness of pelvic affections to become bilateral.

Case IV. *Pedunculated Uterine Fibroid with Chronic Disease of Appendages.* Hysteromyomectomy. Bilateral removal of the appendages. Hysterorrhaphy. Recovery. The existence of but the one growth in this case seemed to render it unnecessary to prolong the operation sufficiently to remove the entire uterus.

Case V. *Double Pyosalpinx and Ovarian Abscesses* (gonorrheal). Bilateral removal of appendages. Resection of ureter. Uretero-cystostomy. Recovery. This patient had suffered from repeated attacks of pelvic inflammation. She had been confined to her bed for two months previous to her admission to the hospital. Adhesions of the pelvic viscera to surrounding structures were found to be numerous and dense. In the enucleation of the appendages the right ureter, which was very friable in its lower portion probably as the result of extension of the disease, was inadvertently severed. It proved to be a double ureter—a rather rare anomaly. Fortunately the division occurred so low down in the pelvis, that the distal extremities of the divided ureter were implanted without difficulty into the upper part of the bladder. Convalescence was without event.

Case VI. *Retroflected Adherent Uterus.* Sclerotic Ovaries. Separation of adhesions. Removal of appendages. Hysterorrhaphy. Recovery. This patient had passed the menopause for some years. She had been for years, however, in a state of nervous demoralization in consequence of pelvic pain. The ovaries were very small and as hard as pebbles owing to calcareous degene-

ration. Relief from pain was experienced immediately after operation, and has continued, the patient being enabled to take up her work again as house-keeper in a girls' boarding school, with entire satisfaction.

Case VII. *Fibrous Thickening of the Posterior Wall of the Uterus.* Chronic Salpingitis and Ovaritis. Bilateral removal of appendages. Recovery. As this patient was of feeble constitution, time was not taken for the removal of the entire uterus.

Case VIII. *Wandering Fibroid Spleen.* Splenectomy. Recovery. All the symptoms of this case together with its clinical history pointed to a probable ectopic gestation. Suppression of menses, recurrent colicky pains, sanious uterine discharge with the expulsion of what her physician thought to be a cast of the uterus (I did not see it myself). There was colostrum in the breasts, and a mass in the left side crowding the uterus to the right. This mass proved to be a greatly enlarged and engorged spleen with a long twisted pedicle, its vessels containing thrombi. The tumor was removed and the patient recovered without complication. Her health has continued good.

Case IX. *Double Hydrosalpinx.* Bilateral removal of appendages. Recovery.

Case X. *Fibroid Uterus.* Hysterectomy. Recovery. Numerous adhesions existed in this case—the result of repeated attacks of inflammation.

Case XI. *Retroverted Adherent Uterus;* Chronic Disease of Appendages. Bilateral removal of appendages. Separation of adhesions. Recovery.

Case XII. *Diseased Adherent Uterus.* Hysterectomy. Recovery. This case is one among others observed by myself that seem to illustrate the desirability of doing very radical operations in extensive gonorrheal disease of the pelvic organs. The operation performed in this instance was the third abdominal operation done by myself for this patient. The first was for the

removal of pus tubes, the second for separation of the uterus from new adhesions which had formed, and fixation of the uterus by suture to the anterior abdominal wall; the third a separation again for adhesions and entire removal of the uterus.

Case XIII. *Fibroid Tumor of the Uterus—Hemorrhagic—Multinodular.* Hysterectomy. Recovery. The convalescence of this patient afforded an interesting and unusual complication. She was a woman over fifty years of age, a native of the West Indies and had suffered repeatedly from various tropical fevers which had probably resulted in producing organic changes of the liver. Hence, following the etherization, she suffered from frequent vomiting of a dark, frothy, moss-green mucus. No treatment seemed to be of any avail in checking it, except that for a short time respite was obtained by washing out the stomach. There was little fever, the pulse was not rapid, nor was there any abdominal tympany. The abdomen had been kept well strapped by adhesive plaster to prevent strain from interfering with the union of the wound.

On the 8th day following operation, the stomach being quieted and the wound having apparently healed by first intention, the stitches were removed. A day or two later, a severe vomiting attack occurred, the wound opened up and the intestines were extruded from it. I cleansed and replaced them and kept the wound packed with sterile gauze until it closed by granulation.

Case XIV. *Carcinoma of the Uterus.* Hysterectomy. Decease of the patient on third day from exhaustion due to chronic sepsis. The autopsy in this case showed the site of operation to be in perfect condition. It was found, however, that the patient had an amyloid liver with cancerous deposits throughout. There were also large masses of fungous growths over the liver and parietal peritoneum in the upper portions of the abdomen. Had this condi-

tion been recognized before the operation, this patient should not have been operated upon.

Case XV. *Cystic Tumor of Broad Ligament with Cystic Disease of the Ovaries and Chronic Salpingitis.* Bilateral removal of the appendages. Recovery. This operation was done for a patient whose mind was affected. Though she seemed quieter and more manageable after operation, her mind has not been restored. The conditions which existed, however, demanded operation apart from the effect which they might be supposed to have upon the mental state.

Case XVI. *Advanced Tubercular Disease of Uterine Appendages and Peritoneum.* Tubercular Ascites. Bilateral removal of tubercular appendages. Evacuation of nearly three gallons of free liquid from the abdominal cavity. Recovery. The prognosis in this case, notwithstanding the patient's rapid and satisfactory convalescence was bad, because of the nature and extent of the disease. Within three months after her return to her home. I learned that *paracentesis abdominis* had been performed twice for a reaccumulation of the fluid. The patient shortly afterward succumbed to the progress of the disease.

Case XVII. *Procidentia Uteri, Vari-cosity of Broad Ligaments, Chronic Disease of Appendages.* Bilateral removal of appendages. Hysterorrhaphy. Recovery. For the extreme relaxation of the vagina a LeFort operation for its closure was done later.

Case XVIII. *Intraligamentous Multilocular Cystoma.* Growth of immense size, filling both abdomen and pelvis. Patient 69 years of age. Death from shock. This patient had carried her tumor for 30 years, during which time she had been a constant sufferer, spending much of her time in hospitals. The recent rapid growth of the mass had so greatly increased her sufferings caused retention of urine, cedema of the vulva and lower limbs, that she was

determined to have an operation done at all risks. I had some doubt of the patient's ability to pass through so trying an operative procedure, and, therefore, had her heart examined by a medical expert, who pronounced it a "senile heart" although he found no evidence of actual organic disease. He thought with care, an anesthetic might be employed for her with safety. The operation proved to be a formidable one—dense adhesions existed. There was very little blood lost, yet the patient was badly shocked. She rallied for a time, after operation, but again relapsed and died some hours later of exhaustion. No more striking illustration can be afforded of the evils of delay in the removal of tumors. Thirty years of suffering and a fatal termination might have been avoided had the operation been undertaken earlier in the patient's history.

Case XIX. *Suppurating Ovarian Cystoma* with tuberculous disease of the appendages and disseminated miliary tubercle of the visceral and parietal peritoneum. Removal of cystoma and bilateral removal of appendages. Recovery. Many bowel adhesions existed in this case, requiring considerable stitching of the bowel to protect points weakened by separation of adhesions. Had there not been so much pus which it was necessary to remove, I should have felt tempted to close the abdomen, without completing the operation. The patient was thoroughly septic when operated upon. She made, however, a brave struggle for life, and recovered with a small fistula at the site of the drainage tube which, at times, discharged fecal matter. She desired me to operate again for closure of the fecal fistula, but, knowing the extensive involvement of the abdominal organs in tubercular disease, I did not feel warranted in doing so.

Case XX. *Multilocular Uterine Fibroids*. Hysterectomy. Recovery.

Case XXI. *Ventral Hernia*. Result of a previous cœliotomy for removal of pus tubes. Recovery.

Case XXII. *Retroflexed Uterus*. Intraperitoneal shortening of the round ligaments for correction of the position of the uterus. Recovery.

Case XXIII. *Multilocular Cyst of Right Ovary*. Large size. Removal. Recovery. Just before the operation the patient had suffered from a sharp attack of peritonitis, the result of an injury. The adhesions resulting from this attack were quite extensive.

Case XXIV. *Tubercular Pyosalpinx*. Bilateral removal of the appendages. Recovery. This patient, when she came to my office for examination was wearing ichthyol ointment, thickly spread over her abdomen for the relief of pain. She was also receiving electrical treatment per vaginam. The tubes were found greatly distended with pus in which tubercle bacilli were found in abundance.

Case XXV. *Pelvic Abscess*, the result probably of an attempt at criminal abortion. Rupture of left tube. Patient in extremis from septic absorption. Evacuation of pus and removal of gangrenous appendages of left side. Death from sepsis.

Case XXVI. *Retroflexion of Uterus*. Intraperitoneal shortening of round ligaments. Recovery.

Case XXVII. *Chronic Disease of Appendages*. Bilateral removal. Recovery. In this case I had made an attempt previously to relieve severe dysmenorrhea by doing Alexander's operation for a retroflexed uterus. The patient continued, however, to suffer until the appendages were removed.

Case XXVIII. *Chronic Salpingitis and Ovaritis*. Hæmatoma of Ovaries. Bilateral removal of appendages. Recovery.

Case XXIX. *Tubercular Ascites*. Exploratory incision; Evacuation of ascitic fluid; Irrigation of abdominal cavity. Recovery. The visceral and parietal peritoneum as well as the contents of the pelvis were studded with miliary tubercle.

Case XXX. *Chronic Salpingitis and*

Ovaritis. Bilateral removal of the appendages. Recovery.

Case XXXI. *Fibroid Tumor of the Uterus*, (hemorrhagic). Hysterectomy. Recovery.

Case XXXII. *Chronic Salpingitis and Ovaritis.* Bilateral removal of the appendages. Recovery.

Case XXXIII. *Tubercular Pyosalpinx and Ovarian Abscesses.* Bilateral removal of the appendages. Recovery.

Case XXXIV. *Gonorrhoeal Pyosalpinx and Ovarian Suppuration.* Bilateral removal of the appendages. Recovery. This patient suffered from severe paroxysmal pains simulating those of ectopic gestation for two months prior to her operation. The tubes were found immensely distended with pus.

Case XXXV. *Hemorrhagic Uterine Fibroid.* Hysterectomy. Recovery. This patient when brought to the hospital, was exsanguinated and so ill that she was considered unfit for operation. Examination of the blood showed a marked condition of leucocytosis to exist. As the effect, probably of pelvic pressure from the tumor, an irritating diarrhoea existed, which further exhausted her. She was unable to void urine because of the pressure made by the mass on the urethra, and had to be catheterized from time to time. After careful feeding and tonic treatment, continued through several weeks, she was prepared to pass through the trying operation with safety.

Case XXXVI. *Double Pyosalpinx and Ovarian Abscesses.* Sub-Peritoneal Uterine Fibroid. Myomectomy and bilateral removal of appendages. Recovery. This patient was extremely ill when admitted to the hospital, as she was suffering from pus absorption.

Case XXXVII. *Fibroid Uterus with Chronic Disease of the Appendages.* Hysterectomy. Recovery.

Case XXXVIII. *Enlarged Cystic Ovary with Hematoma.* Unilateral removal of appendages. Recovery. As this operation was done for a comparatively young woman, I did not feel warranted in removing both

ovaries. The condition of the one remaining was fairly good.

Case XXXIX. *Hydrosalpinx and Chronic Ovaritis.* Numerous adhesions the result of repeated attacks of peritonitis. Bilateral removal of appendages. Recovery.

Case XL. *Uterine Fibroid.* Hysterectomy. Recovery.

The cases of coeliotomy just enumerated included nine cases of hysterectomy; two of hystero-myomectomy; eight cases of pyosalpinx; four of cystic tumors; two of tuberculous disease of the peritoneum; two of hernia; one splenectomy for wandering spleen; two cases of shortening of the round ligaments (intraperitoneal); two cases of hydrosalpinx; the remainder (eight) were cases of chronic disease of the appendages resulting in repeated attacks of peritonitis.

Other operations done during this same period included two cases of vaginal hysterectomy; three exploratory incisions of the vaginal vault for breaking up pelvic adhesions and examining the uterine appendages; two cases of vaginal puncture for evacuation of inflammatory masses in the broad ligament; six cases of amputation of the uterine cervix; four operations for shortening the round ligament according to Alexander's method; thirteen rectal operations, including six of Whitehead's operation for hemorrhoids; one proctorrhaphy for prolapse of the bowels. The remaining operations for fissures, fistulæ, and ischio-rectal abscesses; eight vesical and urethral operations; twelve trachelorrhaphies; twenty-five perineorrhaphies; several other plastic operations on the vagina for prolapse of the vaginal walls, etc. In four cases excision of the breast was done for malignant growths; in three cases evacuation of breast abscesses. Several other minor operations were called for.

The three fatal cases in the entire list were those in which an error in judgment in overestimating the strength of the patient, and a failure to appreciate the extent of the disease, were possibly partial factors of defeat where desperate chances had to be taken; the first was the case of neglected intraligamentary cyst; the second, the case of disseminated carcinomatous disease; the third, that of general puerperal sepsis. The keener the surgical sense becomes, the less frequently must such misfortunes overtake the operator.

... THE ...
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INFLUENZA.

For the third time in less than a decade, an epidemic of influenza has swept over the country and carried with it many aged and infirm victims. Compared with the epidemics of 1890 and 1891, the present one has been remarkably mild; most robust persons attacked being able to throw off its effects in two or three days. A large proportion of the so-called "grip" may doubtless properly be referred to attacks of coryza, tonsillitis, pharyngitis, or other localized affections always prevalent during changeable winter weather.

In genuine influenza, there is no known localized seat of the disease unless the presence of Pfeiffer's bacillus in the secretions of the respiratory tract, be considered evidence that that is the seat of the infection. It would seem more reasonable to consider influenza a general infection, such as is intermittent or typhoid fever. Immunity is established very rapidly, but not early enough to prevent deleterious secondary effects of the toxins on the most vulnerable or devitalized portion of the human system. Hence the fatality, especially among the aged who have been subject, for years perhaps, to general winter coughs, bronchorrhœa, or other pulmonary affections.

Having no specialized local symptoms, its manifestations may readily be mistaken for the prodromal symptoms of other pathological conditions, and what is perhaps more common, the initiatory symptoms of other diseases are often considered to be influenza and the well established disease, later looked upon as a sequel. All past epidemic cases of suspected influenza should be subjected to a bacteriological investigation, just as constantly as are cases of membranous sore throat, where an absolutely reliable diagnosis is to be made. To make a snap diagnosis of "grip" at such times, cannot but lead to serious consequences, for it is during the prodromal stage of many serious diseases that the physician may exert the greatest beneficial influence. K.

OPIUM AND ITS DERIVATIVES.

In spite of the fact that many physicians look upon opium very much as the teetotaler looks upon alcohol, it must nevertheless be recognized as perhaps the most indispensable drug in the entire pharmacopœia. It is generally recognized as being a remedy without direct curative properties, but what remedies, it might be asked, may be regarded as such? Aside from a few germicides such as quinine, mercury and iodine, few are entitled to the distinction of being specifically curative. The thinking physician knows that in the majority of instances he can but aid nature in her attempt to prolong the life of the individual to the normal end of his period of existence, and in opium he finds one of his most effective allies. Because of its great power it must be used with extreme care, for like all remedies of value, its irrational use is fraught with great danger. No other drug has a wider range of application, for its anodyne, hypnotic, sedative and other actions often serve a good purpose in the management of disease.

Of all its many alkaloids, about 20 in number, morphine is the only really indispensable one and probably represents the drug therapeutically for all purposes, though

this is denied by some investigators. It is present in normal moist opium to the amount of from 10 to 14 per cent. More than this is rare, and less is suspicious of adulteration. Codeine, the alkaloid of second importance, is present in much smaller amounts, less than one-half of one per cent. being the rule. Narcotine ranges from one to ten per cent., but only rarely to the amount of the latter figure. Pseudo-morphine is found in one-fifth of one per cent.; Thebaine, one fifteenth to one per cent; Narceine, two one hundredth to seven tenths of one per cent., and papaverine to the amount of about one per cent. The remaining alkaloids are present in minute amounts and do not play an important role in therapeutics. As given in the form of opium, the following special effects are induced by the individual alkaloids: To morphine are due the main physiological effects known as the action of opium. Codeine lacks the anodyne properties of morphine but is hypnotic and sedative. Narcotine in direct antagonism to its name, is not narcotic, indeed seems possessed of little action of value. The properties ascribed to it being anti-periodic and tetanizing, and in very large doses, 15 to 30 grains, hypnotic, but not narcotic. It is removed from the official preparation, opium deodoratum, of the pharmacopœia of 1890.

Thebaine is a powerful spinal excitant and tetanizing poison resembling strychnine. Narceine is alleged to have a general action similar to morphine, but more feeble though its hypnotic action is equal or even greater. Papaverine is mildly hypnotic and heart sedative. The only action differing from that of morphine, it will thus be seen, is the tetanizing one of thebaine and narcotine. These two constituents probably represent the heart stimulant action referable to opium.

In a recent work on materia medica, the following uses for opium are given: "To relieve pain, except in acute inflammation of the brain; to cause sleep in insomnia of low

fevers; to allay irritation, to check secretions—diarrhœa, dysentery, diabetes; to support system in low fevers, etc.; for peritonitis, cerebro-spinal meningitis, cholera morbus, delirium tremens, mania spasms, melancholia, sciatica, neuralgia, cancer, renal and hepatic colic from calculi, cough without secretion; to lock bowels when required by inflammation, hemorrhages, dyspnoea, angina pectoris, cerebral anæmia; morphine hypodermically for consumption, chronic catarrh, asthma, diabetes, typhoid fever, dysenteric tenesmus, epilepsy, hysteria, croup, bronchitis, dysmenorrhœa."

To this long list of uses may be added another, that of the artificial alkaloid, apomorphine made from morphine or codeine; through the simple abstraction of a molecule of water from morphine, this alkaloid becomes the most active emetic known, and its range of application is by no means limited. K.

DEATH OF DR. THOMAS W. SHAW.

Dr. Thomas W. Shaw, one of the oldest and most prominent members of the Allegheny County Medical Society, died of paralysis, at his home, Ridge avenue, Allegheny, January 18, 1899, in his 73rd year. His loss is the first which the society has suffered by death, during a period of more than two years. For many years Dr. Shaw held a position in the foremost rank of the profession in Western Pennsylvania. He was a graduate of the University of Pennsylvania, of the class of 1848, and practiced in Pittsburg for more than fifty years. Of a kindly disposition, he was the friend and counsellor of the young practitioner, who was always certain of courteous treatment and encouraging assistance in consultation. He was the typical family physician on whom his patients looked with confidence in times of sickness, and as a friend and adviser in times of health. In practice his broad and liberal mind enabled him to keep pace with the rapid strides in medicine and surgery, made during the period

since his time of graduation. In the accomplishment of his daily work he possessed rare systematic abilities, a faculty which enabled him to perform an unusual amount of labor, and at the same time allowed leisure hours to devote to his family and friends. His honest nature and kindly attributes will long be remembered by his professional brethren, his friends and patients.

K.

DEATH OF DR. JOHN B. HAMILTON.

It is with sorrow that we record the death of Dr. John B. Hamilton, the talented editor of the *Journal of the American Medical Association*, which occurred December 24. The immediate cause of his death was intestinal perforation, during the latter stage of an attack of typhoid fever. For many years Dr. Hamilton has filled positions of great responsibility and trust, both in the service of the government, and in his purely professional capacity. As editor of the *Journal of the American Medical Association*, he showed a versatility of mind, powers of observation and a fund of knowledge rarely found in one individual. Through his systematic and untiring efforts, the *Journal* became, what of right it should be, the representative organ of the American medical profession. His death at the comparatively early age of 51 years, is a serious loss to the profession, for whose higher development he had exerted himself for so many years.

K.

EDITORIAL NOTES.

OFFICIAL NOTICE.

Members, wishing place on the scientific program for next meeting, will please, until further notice, address me at Harrisburg, care House of Representatives.

S. S. Towler,
Chairman.

DR. SENN'S ADDRESS BEFORE THE PITTSBURG ACADEMY OF MEDICINE.

Owing to a miscarriage of arrangements

the address of Dr. Senn, on Empyæma at Camp Thomas, delivered before the Pittsburgh Academy of Medicine, does not appear in this issue of the *Journal* as was promised last month.

K.

APPLICATION TO THE THROAT IN WHOOPING COUGH.

A ten per cent. solution of citric acid in simple syrup is recommended as an application to the throat in whooping cough. The frequent administration of small quantities of citric acid lemonade is said also to have a beneficial effect both as a prophylactic and curative remedy.

K.

DEATH OF DR. J. G. CUNNINGHAM.

Dr. J. G. Cunningham, of Kittanning, Pa., died December 12, 1898, at his residence, The Reynolds House. He had been a sufferer from nervous debility for a number of years, during which time he was not in active practice. He was a member of the Armstrong County Medical Society, the Medical Society of the State of Pennsylvania, the American Medical Association, and the Grand Army of the Republic, having served during the Civil war as a member of Young's Battery, stationed at Fort Delaware. The Armstrong County Medical Society adjourned its regular meeting in respect to his memory.

F. C. M.

NAUSEOUS REMEDIES.

Much difficulty is often experienced in persuading patients to take specially indicated medicines, because of their nauseous taste. This is especially true of those that are of necessity given in solution. To overcome the unpleasant taste of such the late Austin Flint, Sr., recommended the following method of procedure: "Let the breathing be carried on exclusively through the nostrils until the medicine is swallowed and several mouthfuls of water or some other drink have been taken. In this way are rendered tasteless all remedies in a liquid form which do not contain ingredients not readily washed away from the organ of taste.

Epsom or even Glauber's saults, for example, may be taken without disgust." K.

PLACEBOS.

The practice of administering placebos is one that has, happily, fallen into well deserved disrepute. By this statement it is not intended to deny the influence on the minds of patients of the act of prescribing remedies, hence placebos would seem to have a proper place in the armamentarium of the physician. No person, however, who imagines himself ill, but in whom no pathological process is discoverable, is really well, if he were so, his judgment would rise superior to his imagination and no medical advice would be sought. Under conditions in which in olden times bread pills and other placebos might have been prescribed, the careful physician will always discover some derangement of function, possibly due to faulty habits of living or diet, and to administer an absolutely inert placebo is an unwarranted practice. As a rule elimination will be found defective or there exists at least, a justification for the administration of eliminant remedies—remedies that possess some mild though real action of a laxative, diuretic or diaphoretic nature, in addition to the mental effect produced. K.

SURGICAL INTERFERENCE OR SURGICAL INTERVENTION.

Dr. J. F. Winn, editor of the *Richmond Journal of Practice*, has a grievance against the word "interference" when used in relation to operative or surgical treatment. He claims that to interfere would indicate meddlesome surgery, while to intervene would be more in the way of "interposition, or mediation—a coming between for a friendly purpose." While we recognize the commendableness of the object aimed at—the smoothing down of an antagonistic expression—we are inclined to differ from Dr. Winn as to the harshness of the term "interference" when used as above specified. The surgeon has no quarrel with normal biologic functions, with which interference

would be unwarrantable; he does interfere, however, with pathologic action, and most vigorously. He interferes with the cancerous process, with necrotic processes and even with nature, after a serious injury, for does he not interfere with her slow process of amputation by cutting off a limb some little distance above the traumatism and practically usurp her office? The surgeon is essentially an interferer with abnormal conditions and in it lies his glory. Hence we fail to be impressed with the need of a more suave term to express his antagonism against disease. K.

SECOND ANNUAL REPORT OF THE STATE INSTITUTION FOR FEEBLE-MINDED OF WESTERN PENNSYLVANIA.

The state institution for feeble-minded children at Polk, Venango Co., has just issued its second annual report. The institution contains 496 inmates, 261 of these having been admitted during the year; and this would seem to show in a striking way the great need which existed for an institution of this kind in Western Pennsylvania. The total capacity of the institution at present is 612, and there are on file applications of enough children to completely fill it. The buildings are excellently planned on the so-called cottage system, the most valuable feature of older institutions of a similar character having been incorporated. The original plan of the institution contemplated separate buildings for the custodial care of helpless idiots who are not susceptible of education. The superintendent, Dr. J. M. Murdoch, and the board of managers call attention to the great need of these buildings so that this class of children may be removed from those who can be educated or improved. It is to be hoped that the additional buildings may be provided by the legislature, since their need seems to be very clear.

There is no mention of any scientific work done during the past year. It is to be presumed that the labor incident to the organization of the institution has probably kept

back this work. Now that the institution is fairly established and its population has grown to almost 500, and seems likely to reach 600 in the near future, the present staff of two physicians should be increased, and at least one of the staff should be an expert neuro-histologist and pathologist so that the valuable autopsy-material, available in institutions like this, may be properly utilized.

T. D.

Reviews.

THE CARE OF THE BABY. A Manual for Mothers and Nurses Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; etc. Second Edition, Revised. Price, Cloth, \$1.50. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

This most excellent manual, while written for mothers and nurses, will be found to appeal to the physician just as well, for the proper care of infants is often slighted by members of the medical profession, and the simple though strictly scientific principles laid down here will broaden the view of all readers. To intelligent mothers it is a veritable treasure and no family physician will regret recommending it to such for guidance in the management of children both well and sick.

A POCKET MEDICAL DICTIONARY. Giving the Pronunciation and Definition of the Principal Words used in Medicine and the Collateral sciences, Including very complete tables of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilli and Thermometric Scales, and a dose-list of Drugs and their Preparations, in both the English and Metric Systems of Weights and Measures. By George M. Gould, A. M., M. D., Editor Philadelphia Medical Journal, etc. New edition, entirely re-written and enlarged, including over 21,000 words. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

This new edition of Gould's pocket dictionary is specially commendable for the compactness of its arrangement, allowing the student to carry it in his pocket at all times, without inconvenience. The present edition contains nearly double the number of words of the first one, and in addition is brought up to the times in every respect. A rather unpardonable orthographical error occurs on the title page, and one of the following pages, where the plural of spirillum is given as spirilli.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY. By George Frank Butler, Ph.G., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois; etc. Second Edition, Revised. Price, Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

This work on materia medica presents many points of excellence among which may be mentioned the prominence given to pharmacopoeial remedies, and the thorough presentation of the physiological action and therapeutic indications of the drugs discussed. The introductory chapters on pharmacology and therapeutics, the administration of medicine, the untoward effects of drugs, weights and measures, and pharmacutical preparations are also highly commendable features. With the author's classification, to arrange the remedies "by grouping them along the lines of greatest practical utility," we are not in complete accord, believing that a general alphabetical arrangement is more desirable and leads to less confusion, for no two authors adopt the same classification when therapeutic action is taken as the basis.

Altogether the work will supply well the needs of the student and the practitioner, to the one in the general acquisition of knowledge and to the other for reference and special information.

MEDICAL AND SURGICAL REGISTER OF THE UNITED STATES AND CANADA.—A List of Physicians and Surgeons, Arranged by States and Provinces, Giving Post-Office Address, etc. Fifth Revised Edition. 1898. R. L. Polk & Company, Publishers, Detroit, Chicago.

Many more facts and data than are indicated under the title are to be found in this work of 2,502 pages. Under the systematic arrangement of physicians by States and Provinces, the post-office address, the system practiced and the date and college of graduation is also given, together with the population of the city or town. In addition, all of the existing and extinct medical colleges of the two countries are given, together with many other data concerning them; also the medical societies, etc., with their officers. A subject of great interest to practically every medical man is a synopsis of the laws of registration and other laws relating to the medical profession in the various States. Of much interest also will be found the various statistics, relating to climate, temperature, general and special rates of mortality, etc.

The general list of physicians by States and Provinces, is supplemented by a general index to the physicians of the United States, under which the names are arranged alphabetically, and the

location of each in the general list indicated, making it a matter of ease to locate any one.

To physicians doing literary work and to officers of societies, the Register is practically indispensable, and no one can fail to find it useful on many occasions.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M. D., Fellow of the Royal Society, Professor of Medicine in the Johns Hopkins University, etc. Third Edition, Revised and Enlarged. New York: D. Appleton & Co. 1898.

From an etiological and symptomatological point of view, Osler's Practice leaves little to be desired. The author's wide knowledge, acute powers of observation and unexcelled experience, render him capable of presenting these subjects in a most attractive and clear manner. As is evidenced by the Germans, however, the concentration of thought on the cause and manifestations of disease engenders a certain degree of therapeutic nihilism from which the author has not altogether escaped. His persistent antagonism to antiseptics in the treatment of typhoid fever is well known and reminds one, more or less forcibly, of the extreme antagonism with which many of the foremost pathologists met the bacterial theory on the causation of tuberculosis, when first presented some twenty years ago. The statement regarding the treatment of pneumonia to the effect that it is "a self-limited disease, which can neither be aborted nor cut short by any known means at our command" will doubtless fail to bring conviction to many old practitioners who have had opportunity to treat the disease heroically during the stage of engorgement and partial solidification. Solidification of the lung tissue is a sequel and if the conditions producing it can be so modified as to arrest the occurrence of the exudation process, the most serious aspect of the disease is overcome and its regular course checked. While in the reviewer's opinion these defects exist, the work is one of exceptional merit, and appeals specially to the well-trained and well-qualified practitioner capable of appreciating and applying the most modern thought and knowledge bearing on the science of medicine.

NEW BOOKS.

Thirteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Wm. Stanley Ray, State Printer of Pennsylvania. 1898.

The Medical News Pocket Formulary for 1899. By E. Quinn Thornton, M. D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. Lea Brothers & Co., Philadelphia and New York. 1899.

Saunders' Pocket Medical Formulary. With an Appendix. By William M. Powell, M. D., Author of "Essentials of the Diseases of Children," etc. Fifth Edition, Thoroughly Revised. Price \$1.75 net. Philadelphia. W. B. Saunders. 925 Walnut Street. 1899.

Manual of Orthopedic Surgery. A Treatise on Deformities and Diseases of Joints and Bones. By Stewart L. McCurdy, M. D., Professor of Anatomy and Oral Surgery, Pittsburg Dental College; etc. Price \$1.25 net. Published by the Author. Pittsburg: Nicholson Press. 1898.

Transactions of the American Climatological Association. For the Year 1898. Volume XIV. Philadelphia: Printed for the Association. 1898. Copies may be had of the Secretary, Guy Hinsdale, M. D., 3943 Chestnut St., Philadelphia. Wm. J. Dornan, Printer, 100 North Seventh St.; Philadelphia.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Sciences. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XVII., "Infectious Diseases and Malignant Neoplasms." New York: William Wood & Company. 1898.

A Text Book of Mechano-Therapy, (Massage and Medical Gymnastics) Especially Prepared for the Use of Medical Students and Trained Nurses. By Axel V. Grafstrom, B.Sc., M. D., Late Lieutenant in the Royal Swedish Army, etc. With Eleven Pen-and-Ink Sketches by the Author. Price \$1.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899.

Annual and Analytical Cyclopaedia of Practical Medicine. By Charles E. de M. Sajons, M. D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Volume II. Philadelphia, New York and Chicago: The F. A. Davis Company, Publishers. 1899.

The Practice of Obstetrics. By American Authors. Edited by Charles Jewett, M. D., Professor of Obstetrics in Long Island College Hospital, Brooklyn, N. Y. In One Octavo Volume of 763 Pages, with 441 Engravings in Colors and Black, and 22 Full-Page Colored Plates. Cloth, net, \$5.00; Leather, net, \$6.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

A Practical Hand-Book of the Muscular Anomalies of the Eye. By Howard F. Hansell, M. D., Clinical Professor of Ophthalmology, Jefferson Medical College, etc., and Wendell Reber, M. D., Instructor in Ophthalmology, Philadelphia Polyclinic and College for Graduates in Medicine, etc. 28 Illustrations and 1 Plate. Price, \$1.50. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

Diseases of the Eye. A Hand-Book of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz, M. D., Professor of Ophthalmology in the Jefferson Medical College; etc. With 255 Illustrations and Two Chromo-Lithographic Plates. Third Edition, Thoroughly Revised. Price, Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899.

REPRINTS AND PAMPHLETS

Pseud-Arthrosis of the Tibia, Union with the Parkhill Clamp. By Clayton Parkhill, M. D. Denver.

A Case of Syringomyelia. By Theodore Diller, M. D., Pittsburg. Reprinted from the Medical News, October 1, 1898.

A Case of Thyroidectomy. By Wilmer Krusan, M. D., Philadelphia. Reprinted from the Therapeutic Gazette, August 15, 1898.

Ether Pneumonia. By J. M. Anders, M. D., Philadelphia. Reprinted from the University Medical Magazine, August, 1898.

Some Observations of General Interest Regarding the Course and Management of Cataract. By J. H. Woodward, M. D., New York.

Are Complete Castrates Capable of Procreation? By F. R. Sturgis, M. D., New York. Reprinted from the Medical News, October 8th, 1898.

The Abuse and Dangers of Cocain. By W. Scheppegegrell, M. D., New Orleans. Reprinted from the Medical News, October 1st, 1898.

Nervous Dyspepsia with Report of Cases. By Frank H. Murdoch, M. D., Pittsburg. Reprinted from the New York Medical Journal for September 24th, 1898.

Sequelæ of Abdominal Operations. By Wilmer Krusen, M. D., Philadelphia. Reprinted from the American Gynecological and Obstetrical Journal, for November, 1898.

The Surgical Treatment of Uterine Myomata. By Henry O. Marcy, M. D., Boston. Reprinted from the Journal of the American Medical Association, September 10, 1898.

The Interdependence of Healthy Bodies and Healthy Brains. By Elmer Lee, M. D., New York. Reprinted from the Bulletin of the American Academy of Medicine, October, 1898.

W. W. Keen, M. D., Philadelphia, and W. G. Spiller, M. D., Philadelphia, On Resection of the Gasserian Ganglion With a Pathological Report on Seven Ganglia Removed by Professor Keen.

The Absence of Hydrochloric Acid in the Stomach, With Report of Cases. By Frank H. Murdoch, M. D., Pittsburg. Reprinted from the Philadelphia Medical Journal, February 28, 1898.

Primary Focal Hematomyelia from Traumatism—A Frequent but Often Unrecognized Form of Spinal-Cord Injury. By Pearce Bailey, M. D., New York. Reprinted from the Medical Record, November 19, 1898.

Suggestions Regarding a Laboratory of Neurology and Psychology at the University of Pennsylvania. By Charles K. Mills, M. D., Philadelphia. Reprinted from the University Medical Magazine, November, 1898.

Rare Cases of Arrhythmia. Presented to the Section on Practice of Medicine at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, June 7-10, 1898. By James M. Anders, M. D., Philadelphia. Reprinted from the Journal of the American Medical Association, July 16, 1898.

Further Observations Regarding the Use of the Bone-Clamp in Ununited Fractures, Fractures with Malunion, and Recent Fractures with a Tendency to Displacement. By Clayton Parkhill, M. D., Denver. Reprinted from Annals of Surgery, May, 1898.

The Advantages of the Trendelenburg Posture During all Operations Involving Directly or Indirectly the Cavities of the Mouth, Nose and the Trachea, with a Report of Two Cases of Epithelioma and Sarcoma of the Tonsil. By W. W. Keen, M. D., Philadelphia. Reprinted from the Annals of Surgery, July 1897.

The Advantages of a Permanent Abdominal Anus and of Total Closure of the Sacral End of the Rectum, in Operation for Cancer of the Rectum. Presented to the Section of Surgery and Anatomy at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, June 7-10, 1898. By W. W. Keen, M. D., Philadelphia. Reprinted from the Journal of the American Medical Association, August 15, 1898.

Communications.

REPORT OF THE ALLEGHENY VALLEY CLINICAL ASSOCIATION.

At the regular monthly meeting of the Allegheny Valley Clinical Association, held at Foxburg, Pa., December 15, 1898, the Secretary read the following report of the objects and work of the Society which, by a unanimous vote, was ordered published.

The report was as follows:

Gentlemen.—In closing up the work of the third year of our Society's existence, I desire to present for your consideration a report of the work done by the Society, and I feel sure that the success that has thus far attended our efforts will be gratifying to you as it has been to me.

The Allegheny Valley Clinical Association was organized three years ago in the parlor of the American Hotel, Foxburg, Pa., by Drs. Wireback, of St. Petersburg, Clover, of Edinburg, and Walker, of West Monterey. A code of laws was adopted which created the necessity of an election of officers. Dr. Wireback was elected president, Dr. Clover, treasurer, and Dr. Walker, secretary, and at each succeeding election they have been re-elected. Since the organization of the Society the roll of members has increased by the addition of the names of Drs. Hoover, Wallace, Summerville, Stute and Kerr. Drs. C. L. Clover and Gardner have also been elected to membership, but as yet not fully identified as members.

The object of the Association as set forth in Art. 3, of the by-laws, to wit., "That of examining and prescribing gratuitously for those who can be induced to visit us on our regular meeting days, especially the poor," has been a *leading feature* of our work and we think a very success-

ful one, as will be shown by the report of cases prescribed for. The social feature of our meetings is not to be lost sight of, as it has been a source of great pleasure, to me at least, and I feel satisfied you all will coincide with me.

From past successes we should be encouraged to go on with the good work we have inaugurated and give it greater publicity, so that the deserving poor, who are as yet not aware of our objects, may avail themselves of our offered charity and be benefitted to a greater extent. And further, I believe that could we enlist the co-operation of the poor authorities of the surrounding townships and boroughs in caring for their wards, many of whom need surgical treatment, that the poor authorities do not feel justified in furnishing them and which many believe could not be obtained outside city hospitals, thereby enlarging the scope of our work and conferring on these unfortunates favors of inestimable value. The fact has been fully demonstrated by the work done by this Society since its organization, that operations of the most delicate and dangerous character can be and have been performed as successfully and skillfully here in our midst as if hurried away to the well equipped hospital and by the hands of the more pretentious specialist in the city, who shows no greater talent or skill than can be found among the members of this Society, but who, having better facilities for the after attention of patients, secures our cases and our glory, leaving the talent and skill of the "country doctor" in obscurity, not because of its lacking, but for want of opportunity to demonstrate it. We are aware that the prevailing fad seems to be the establishing of *private hospitals* by physicians, who desire to pad out their reputation, and some of the work turned out is horrid in the extreme. Some of the so-called hospitals being little short of *pest houses*, from which the attending physicians go forth among their private patients disseminating the germs of disease and death.

While we do not desire to encourage this fad yet owing to the healthful surroundings and splendid railroad facilities of Foxburg, it seems an ideal location for the establishing of a small hospital, *especially so*, provided the co-operation of the railroad people could be secured.

Of all the cases operated on under the auspices of our Society no deaths occurred. Nor are there any that rise up to plague us, but many have been wonderfully benefitted who sought aid from us and are profuse in their thanks for our generous charity in not withholding needed relief, simply because there were no emoluments in it for us. I take pleasure as your secretary, in presenting to you this report of our work as far as my books

show, a record of our daily doings, but owing to my absence from a few of the meetings and the proceedings not coming into my hands, I am unable to give you a *strictly* correct list of cases but I offer enough to prove that our meeting together has not been in vain, and we can say for our own part that we have not only been benefitted by these meetings but inspired to do our work in our daily rounds in a more satisfactory manner. I hope my experience has been yours.

The following is a tabulated report of membership together with report of cases with name and operation performed:

No. full members.....	8
" Elected but not admitted.....	2
" Dropped from roll.....	1
" Meetings held.....	39
" Meetings postponed.....	3
" Meetings no attendance.....	3
" Cases presented.....	46
" Surgical operations.....	8
" Cases visited at their homes.....	4
" Papers read before Society.....	16
" Lectures before Society.....	5
" Quizzes.....	5
" General discussions.....	30
" Cases reported and advice asked by members.....	21

SURGICAL OPERATIONS.

Talipes varus.....	1
Necrosis of femur.....	1
Ovariotomy.....	1
Removal of degenerated testicle.....	1
Encysted hydrocele.....	1
Cleft palate.....	1
Chronic metritis.....	2
Total.....	8

CASES.

Indigestion.....	2
Consumption.....	3
Threatened apoplexy.....	1
Nervous prostration.....	2
Ulcerated eyelids.....	1
Locomotor ataxy.....	1
Chronic gonorrhoea.....	1
Atrophy of right lower extremity.....	1
Hepatic colic.....	1
Retroflexion of uterus.....	1
Ovarian inflammation.....	1
Epilepsy.....	1
Fractured femur.....	1
Fractured right forearm.....	1
Tumor of roof of mouth.....	1
Tricuspid stenosis.....	1
Ruptured os uteri.....	1
Uterine hemorrhage.....	1
Ovarian congestion.....	2
Rheumatism.....	2
Metmorrhagia.....	1
Ulcerated os uteri.....	2
Hysteria.....	1
Carcinoma of breast.....	1
Enlarged axillary glands.....	1
Enlarged testicle.....	1
Encysted hydrocele.....	1
Remittent fever.....	1

Malnutrition.....	I
Cartilaginous tumor of jaw.....	I
Contusion of muscles.....	I
Total.....	38

Respectfully submitted,

R. A. Walker, Sec'y.

DR. TOWLER'S ADDRESS ON OBSTETRICS.

Thompsontown, Pa., January 3, 1899.

To the Pennsylvania Medical Journal:

The "Address on Obstetrics," of S. S. Towler, M. D., published in the December Journal, is an excellent one in the main, but the Doctor evidently reserves something in his management of post-partum hemorrhage! What are the "*necessary means*" to deal with the condition?" It certainly can't be *snow*! Let me say that I think every physician has, *always at hand*, the "*necessary means*." As a precautionary measure against a possible failure of the uterus to contract promptly after being emptied, I usually administer, just prior to the expulsion of the child, a full dose Fluid Ext. Ergot (from ʒi to ʒiiss) and always grasp the uterus firmly as it is emptied, keeping up the pressure until the placenta is expelled. If hæmorrhage occurs at all it occurs because the organ is not contracting or sufficiently *contracted*! There is no time to waste in post-partum hæmorrhage—prompt measures must be resorted to. Every physician *has* the "*necessary means* to deal with the condition!" He has them at hand *always*! They are his hands.

Introduce one *into* the uterus (hand tampon) and use the other externally until the organ contracts. I always use this method, and it alone, and have never failed!

What other or better "*means*" has the Doctor?

Respectfully,

I. N. Grubbs.

Thompsontown, Pa.

LABORDE'S METHOD OF RESUSCITATION IN APPARENT DEATH FROM ANESTHETICS.

Place a piece of linen around the tip of the tongue, and grasp it with the thumb and middle finger, now pull the tongue forward with a jerk, and then relax it again; repeat this manœuvre twenty times a minute. A sense of resistance is felt in the tongue before there is any attempt at respiration. Traction should be continued for thirty or sixty minutes. This method is said to be useless in late stages of narcosis, though in the early stages as an adjunct it is said to be of great utility.—(Southern Practitioner.—The Journal of the Miss. State Med. Assoc.)

Monthly Reports of County Societies.

REPORT OF THE NOVEMBER MEETING OF THE YORK COUNTY MEDICAL SOCIETY.

The regular meeting was held on the 3rd inst. Dr. A. Meyers of York, read an interesting paper on Arterio-Sclerosis. The following is an abstract:

Endarteritis-deformans of the older writers is a condition of thickening of the intima of the bloodvessels. The process leads in the larger arteries.

Etiology. It may be due to local injury from distension, being frequently induced by hypertrophy of the heart; to constitutional diseases, as gout, rheumatism, and syphilis. It may be due to alcohol and senile degeneration.

Anatomical Characters. The pathological change is characterized by a cellular infiltration of the inner coat of the artery. It is softened, relaxed, and thickened. Two forms are described, supposed by some to be stages of the same process, viz: one form is soft, jellylike, moist and pale-redish. The other form is semi-cartilaginous or horny, raised in patches, opaque in the deeper layers and maybe compared to boiled egg-albumin. Superficial layer is unaffected and may be stripped off. In the soft form of the disease fatty degeneration begins in the superficial layers, in the cartilaginous form in the deeper layers. This condition results in various chronic changes, often giving rise to symptoms connected with different organs. High tension pulse is the rule; and it may beat over a large area beyond the point of compression, the so called anastomotic pulse. The apex beat is usually outside of the nipple line. When the left ventricle is hypertrophied, the impulse is heaving and forcible, the aortic second sound clear, ringing and accented, with increased dullness of the præ-

cordial area. "Complications are apt to be cardiac, cerebral and renal."

Treatment. "I am in the habit of enjoining my patients to a strict regime in diet; nothing of a stimulating nature should be eaten. No alcohol or malt liquors should be indulged in; the excessive use of tobacco should be restricted. Strong tea and coffee are contraindicated. Patients should live a quiet life; go to the seashore in due season and avoid high altitudes. Avoid excess in food and drink. If patient had syphilis, give long course of iodide of potassium. If pulse tension is high, give 1-200 gr. nitroglycerine thrice daily. If there is dyspnoea, lividity and cardiac insufficiency, most marked relief can be given by a prompt venesection. Abstract at least twenty ounces of blood. When renal complications arise give close attention to the action of the kidneys and cutaneous surface."

DISCUSSION.

Dr. Alex Craig of Columbia, reported a case which was kept on a most careful diet for six months and the only notable change was a marked reduction in weight, without any amelioration of the distressing symptoms. Suddenly the patient was almost paralyzed. A copious venesection was done, abstracting almost half a gallon of blood with immediate relief and improvement has continued since, a period of a few months. He believes in timely bleeding, in cases somewhat advanced in years and has little confidence in such cases in a restricted diet.

Dr. Wesley C. Stick of Glenville, questions if there is a subject in medicine, after forty years of age, that is more important. At this period men have attained growth and as a rule eat too much. This over-eating he believes to be a prominent factor in the causation of the disease, and if refrained from, in the prevention of the same.

Dr. A. C. Wentz of Hanover, reported a case of diphtheritic croup, which died in twenty-four hours after the apparent onset of the disease. The patient had received

1500 units P.D. & Co.'s diphtheria antitoxin.

Dr. Roland Jessop of York, called attention to the clinical fact that premonitory symptoms in diphtheritic croup are sometimes misleading, they may be indicative of gastritis, throat symptoms at the time being absent. It may be only a short time before a fatal termination when the throat symptoms manifest themselves. He hoped we would soon be able to determine the true nature of such cases by other symptoms than throat symptoms.

*G. E. Holtzapple,
Corresponding Secretary.*

REPORT OF THE DECEMBER MEETING OF THE YORK COUNTY MEDICAL SOCIETY.

Two papers were read, one on Lithæmia by Dr. E. S. Mann, of Dallastown, York Co., and one on Diuretics by Dr. A. B. Shatto, of Red Lion, York Co. The following is an abstract of paper on "Lithæmia":

"The lithæmic condition may be hereditary or acquired." It generally appears in persons between twenty-five and forty years old, and is most prevalent among the highly civilized, because of the more injurious diet; that of civilized man being more productive of uric acid than that of the less civilized. Men are more liable to it than women. Menstruation in females has been supposed to act as a safe-guard.

"The prominent feature of lithæmia is an excess of uric acid in the system." The mere presence of uric acid in the urine is no evidence that it has been produced in excess. It is simply thrown out of solution by a relative diminution of the alkaline bases with which uric acid is combined. Lithæmia is the result of faulty nitrogen metabolism, a chronic impairment of digestion and assimilation. These nutritional disturbances owe their origin to errors mostly in eating and drinking, usually associated with lack of exercise. Errors in diet, unsuitable diet, improperly prepared diet or derange-

ment of the proper relation between nutrition and waste and the consequent loading of the tissues and blood with abnormal products of metabolism, have much to do with the condition we term lithæmia. In spite of the extensive investigations recently made, comparatively little is definitely known on the subject. "The treatment of lithæmia is generally very satisfactory. The two cardinal rules which sum up the whole subject, are: eliminate the toxic agents which cause the symptoms and avoid nitrogenous food from which the toxic agents result. It is often a matter of considerable difficulty to feed lithæmic patients properly, because generally a complete change in diet is necessary and the monotony of a non-nitrogenous food is very unpleasant. Strict attention to diet and moderation in the quantity of food are of primary importance. Meals should be taken regularly, food chewed well and eaten slowly. It is not necessary to cut off all nitrogenous food, for often the chief difficulty lies in digesting starches and sugars. Milk, vegetables and cereals are the best foods. Light meats, as white fish, chicken, or fowl, game, tripe, sweetbread and mutton are the best in that line. Eggs lightly boiled or poached are admissible. The use of heavy meats, as pork, veal, dried and salted meats, sweet and rich dishes of all kinds must be restricted. Vegetables which contain much woody fibre, or acids which create flatulence, must be avoided. Celery and the juices of oranges and lemons are considered beneficial. Next to diet, regular exercise is the most important therapeutic measure; the patient must eat less or burn up more material and the chief stimulant of tissue-metabolism is exercise." Salt water bathing followed by friction is a valuable aid. When gastric digestion is weak, mineral acids, strychnine and pepsin are useful remedies. Constipation is best overcome by cascara, given preferably in glycerine. Alkalies have proven very useful and may be added to negative mineral waters if they are used instead of the

truly alkaline waters. The best eliminants are phosphate of sodium and lithium salts. The best routine treatment for most cases of lithæmia consists in the administration of phosphate of sodium in drachm doses, once daily, taken preferably in a glass of hot water before breakfast, and from five to ten grains of a lithium salt in a glass of water preferably about four hours after meals. Of the different lithia salts, probably the bitartrate is the best and its most pleasant and effective administration is in the form of the effervescent tablet.

Abstract of paper on "Diuretics:"

Diuretics are medicines which increase the flow of urine. Some act directly on the secreting structure, while others act indirectly by removing an obstacle to secretion. Diuretics often fail in practice, not because they are powerless, but from the nature of the disease. Thus in cardiac disease the kidneys may be so congested that secretion of urine is impossible and in Bright's disease when the tubules are destroyed diuretics must be powerless. Cold, by checking the secretion of the skin, often increases the efficiency of diuretics. Vascular fullness from the ingestion of large quantities of water, greatly increases the flow of urine. If the tissues are full of the products of disintegration the urinary solids are increased, otherwise they may not be much affected. Large draughts of simple water, taken at regular intervals act very favorably in acute Bright's disease, greatly increasing the urinary flow and at the same time lessening the irritation of the kidneys by making the secretion less concentrated and irritating. Large draughts of water thus become a valuable adjuvant to medicinal diuretics. Free catharsis or sweating reduces very decidedly, the secretion of urine; hence diaphoretics and purgatives should be avoided, when a diuretic is given. Often a remedy which, when administered cold and patient kept cool, will act as a diuretic, and the same if given hot and the patient kept warm will act as a diaphoretic. Diuretics are indicated

to maintain the action of the kidneys. In nephritis the irritating diuretics should be avoided. It is necessary to maintain the action of the kidneys in fevers, and for this purpose water should always be given freely. The alkaline diuretics may sometimes be given in the febrile state, but sweet spirits of nitre is generally more serviceable. Diuretics are given to evacuate fluid, as in dropsy, and are successful in proportion to the universality of the effusion and the structural perfection of the kidneys.

Diuretics are given to soothe and diminish irritation of the genito-urinary organs and to so alter the urinary secretion as to prevent the deposition of calculous material.

G. E. Holtzapple,
Corresponding Secretary.

REPORT OF THE JANUARY MEETING OF THE LANCASTER CITY AND COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the Lancaster City and County Medical Society was held January 4, 1899. Dr. G. W. Berntheizel, president, in the chair. The election of officers for the year 1899 resulted as follows:

President..... Dr. William Blackwood, Lancaster.
1st V.-Pres't... Dr. I. N. Lightner, Ephrata.
2nd V.-Pres't... Dr. Theo. B. Appel, Lancaster.
Secretary..... Dr. Park P. Breneman, Lancaster.
Treasurer..... Dr. Geo. R. Rohrer, Lancaster.
Cor. Secretary. Dr. J. R. Lehman, Mountville.
Censors..... Dr. M. L. Davis, Lancaster.
 Dr. G. W. Berntheizel, Columbia.
 Dr. J. B. Kohler, New Holland.
Med. Exam'rs. Dr. Geo. L. Cassel, Lancaster.
 Dr. S. M. Crawford, Columbia.
 Dr. S. T. Davis, Lancaster.
Librarian..... Dr. Park P. Breneman, Lancaster.

The following report was submitted by the treasurer, Dr. G. R. Rohrer, and received by the Society:

RECEIPTS.

Jan. 1, 1898, To Balance.....	\$331.90
Dec. 31, Amount collected during the year as dues.....	372.50

Total.....	\$704.40
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EXPENDITURES.

By Treasurer Medical Society	
State of Pennsylvania.....	\$189.00

By expenses of Society for the year 1898.....	74.12	
By amount placed upon certificate of deposit.....	300.00	\$563.12
Balance.....		\$141.28

The secretary presented the following report of the proceedings of the Society for the year 1898:

Our roll now contains the names of 112 members. During the year our membership has been increased by the addition of 12 new members, viz: Drs. A. H. Stubbs, Frank G. Hartman, Harry M. Sultzbach, M. T. Reeder, Frank Alleman, W. N. Keylor, Wm. T. Worth, John W. Kinard, Geo. C. Kinard, M. U. Gerhard, Wm. H. Herr and Guy Levis Alexander. I am sorry to say the society lost one member by death—Dr. Wm. Harmony Smith, of Intercourse.

The attendance at the meetings has been fairly good: the largest attendance at any one meeting was in May, when 72 members responded to their names. The smallest attendance was in September, when 23 were present. The absence of a paper at the September meeting possibly accounts for the small attendance. The average attendance for the year was 46. During the year the following papers have been read:

"Typhoid Fever," Dr. J. R. Lehman, Mountville.

"Convulsions in Children," Dr. C. F. Markle, Columbia.

"Ophthalmia Neonatorum," Dr. Geo. L. Cassel, Lancaster.

"The Modern Accoucheur," Dr. M. L. Herr, Lancaster.

"Measles and their Complications," Dr. M. M. Denlinger, Rohrerstown.

"The Abnormal Foot and its Treatment," Dr. J. W. Kinard, Lancaster.

"Fluid or Dried Vaccine, Which is Superior and Why?" Dr. H. M. Alexander, Marietta.

"Nasal Obstruction, Sequelae and Treatment," Dr. H. M. Sultzbach, Lancaster.

The papers were all very complete and showed considerable effort on the part of

the writers, and brought out appropriate discussion by the members present.

Many interesting cases have also been reported and numerous specimens exhibited.

The Semi-Centennial meeting of the Medical Society of the State of Pennsylvania, which was held in Lancaster during the year, proved a great success, and the members of our Society who had the management of the affair in hand proved themselves equal to the task. It was instructive as well as a great social and financial success. The fund was liberally subscribed to by our members and the meetings were largely attended.

*Park P. Brencman, Sec'y,
135 N. Duke St.*

REPORT OF CHESTER COUNTY MEDICAL SOCIETY.

IN MEMORIAM: THOMAS DEWITT DUNN, M. D.

Thomas Dewitt Dunn, oldest son of Rev. Thos. H. and Diantha M. Dunn, was born near Meadville, Pa., January 30th, 1854. His great-grandfather, Philip Dunn, emigrated from Scotland and settled in New Jersey. He was a soldier in the Revolutionary War, and later became one of the pioneer settlers of Crawford County. His son, Gideon Dunn, Dr. Dunn's grandfather, was born in New Jersey, and served through the war of 1812, and died in Crawford County. He married Rachel Holton, the only white woman surviving the Indian Massacre, at Sandusky, Ohio.

Dr. Dunn's father was a minister of the denomination known as Seventh-day Baptists, and was in the usual limited circumstances of a country minister. From the age of 14 to 20 the son had practically the entire charge of the home farm while his father was away on preaching tours.

Reading, when a mere boy, of the work of the Sanitary Commission during the war, his enthusiasm was greatly aroused and he then resolved that his life work should be

that of a physician. Inheriting the resolute purpose and sturdy will of his Scotch ancestry, he bent every energy to this end, and although entirely dependent upon his own resources, he steadily pursued his chosen study until, at the time of his death, he held a high rank in the medical profession of this State.

By teaching during his vacation, and boarding himself during the school terms, he finished his Normal School course in two years, graduating from the Edinboro State Normal School in 1876. Putting the same thoroughness into his school-room work which characterized him everywhere, he taught successfully as Principal of the public schools of Fonesta, Pa., for two years, at the same time taking a special course at Alleghany College, Meadville.

In 1878, after consulting Dr. Jacob Price of West Chester, he agreed to come to this place to take charge of a farm owned by Dr. Price, and thus by the revenues derived from the farm, the end he had so steadily pursued was gained, and he was able to enter upon the study of medicine at the University of Pennsylvania. He graduated in 1881, taking, in conjunction with Dr. G. E. de Schweinitz, the Hodge prize for anatomical work. After a competitive examination, he entered the University Hospital as resident physician, and afterwards spent six months at the Children's Hospital, starting in the practice of medicine at West Chester, Oct. 1st, 1882.

His good natural abilities, his thorough preparation for his work, his devotion to his patients, and his kindly personal interest in them, joined to an unusually pleasant address, and a striking and attractive appearance, gained for him rapidly a large practice, and a wide circle of friends. As he became better known, he was in demand as a consultant.

He early joined this Society, and later, the State Medical Society, before which in 1893 he read the address on obstetrics. In 1888, he was elected a Fellow of the College

of Physicians of Philadelphia. He was also a member of the American Medical Association, and of the Pathological Society of Philadelphia. At the time of his death, his name was about to be considered for membership in the Association of American Physicians. His contributions to medical literature are many and a list of them shows the wide range of his medical interests:

1. Hemophilia, *Amer. Jour., Med. Sci.*
2. Two Cases of Glossy Skin, with Causalgia, Following Injury of the Nerves.
3. The Hypodermic Use of Cocaine in Migraine and Bronchial Asthma. (1888)
4. Hemophilia (Keating's Dis. of Children.)
5. A Case of Leukemia with Rare Lymphoid Growths of Orbits and Parotid Growths.
6. Peliosis Rheumatica in a Bleeder.
7. Address in Obstetrics.
8. Ligation of the Common Carotid in a Child of Three Years.
9. A Probable Case of Auto-Infection with some Remarks on the Bacteriological Origin of Puerperal Sepsis.
10. Double Hemiplegia with Double Hemianopsia and Loss of Geographical Center.
11. Auto-Infection.
12. Some Sequelæ of Typhoid Fever.
13. A Case of Parasitic Chyluria.

Early in his practice he was impressed with the need of a hospital in this place. For several years the opportunity did not occur for him to place the matter before the public; but in May, 1892, he read by request before the Philosophical Society of West Chester, a paper advocating the need for such an institution, and out-lining a plan for its organization. The idea was immediately seized upon by the public, and a meeting called to consider it, which resulted in the purchase of a lot and the erection of a small building, which was opened for the reception of patients March 1st, 1893. His interest in this beneficent work never flagged, and he gave to it freely of his time and means. It was largely due to his exertions

that the hospital has received so generously the moral and pecuniary support of the people of the County. He had the satisfaction of seeing the hospital completed according to his plans, and equipped in a manner that makes it the equal of any small hospital in the State. It has now cared for several thousand people, and in every home that has felt its beneficent influence, the memory of its founder should be reverently cherished.

His health was never robust. From early adult life he suffered from frequent and most severe attacks of migraine. These at times completely incapacitated him from work, and at many other times he attended to his practice in such pain as amounted to torture. Yet, even at such times, there was a patient serenity and cheerfulness in his manner and a remarkable self control, which enabled him to rise above his physical ills, and to go about relieving the sufferings of others which were often much less severe than his own. This strain, however, so exhausted his nervous strength that in the spring of 1896, it became necessary for him temporarily to give up his practice, and he went abroad for the summer. He made the acquaintance of several of the most eminent practitioners of Great Britain, at whose hands he received that consideration and hospitable treatment that was his due. After returning home, and spending some weeks in the West, he resumed his practice, considerably improved in health. But from that time on his work was performed under increasing infirmities and more severe and protracted spells of suffering. In February 1898, he was thrown from a carriage, sustaining injuries which appeared inconsiderable at first, but which, after weeks of suffering, resulted in inflammation of and hemorrhage into the pancreas. He was finally removed to the Chester County Hospital, where he died May 6th, 1898.

For several days prior to his death, he was aware of the inevitable end, which he faced with a fortitude and calm resignation

which deeply impressed those who were privileged to be near him. His conception of his own case, and his views as to its proper treatment, were remarkably accurate. He left behind him a name that will dignify and adorn the practice of medicine in this County as long as its history shall last. Soon after coming to West Chester, he became a member of the First Presbyterian church of this place, and was for many years one of its Trustees. He endeavored to make his life conformable to this profession of his religious faith, and in patience and self-sacrifice to imitate the example of the Great Physician "Who went about doing good."

W. T. Sharpless.

West Chester.

REPORT OF THE DECEMBER MEETING OF THE ALLEGHENY COUNTY MEDICAL SOCIETY.

The regular meeting of the Allegheny County Medical Society was held Tuesday, December 20, 1898. Dr. R. J. Murray, of Sewickley, reported "Two Cases of Hydrophobia." He spoke as follows:

Case I.—Dr. Feucht, of Fair Oaks, was seen on the morning of December 9, 1898. He had been bitten, five weeks before, by a dog supposed to be rabid, but had scarcely spoken of the occurrence and treated the matter very lightly. During the preceding night restlessness had been the chief symptom. The patient, well known for years, was found looking rather anxious; face flushed, but with no rise of temperature; pulse 80; respirations very peculiar and seemingly controlled by will power.

Seeing that his anxiety was occasioned by a desire to keep his respiratory organs at work, an attempt was made to give him some bromide of potash in water.

After some hesitation and every appearance of alarm, he gulped down a portion of the liquid. He was immediately seized by most violent spasms of the muscles of throat; his attempts at inhalation were spas-

modic and gasping; he sprang forward on the bed and the facial expression conveyed the idea that he believed suffocation to be imminent.

In a few minutes the storm passed and he subsided into comparative quiet, the breathing became more regular and less difficult, and his face indicated relief. Indeed he so far recovered that he made some pleasant remark to his wife. This interim was of very brief duration and the look of anxiety and suffering soon returned. It was only a few minutes until he was again making efforts, which quickly became frantic, to fill his lungs, this without having made any farther attempt to swallow.

On the following day, this scene was repeated, but was much more pronounced and of a terrible nature. Temperature was 100° F., pulse 89.

He was again given liquid, and the result was disastrous—violent spasms of throat and respiratory organs quickly followed, with a most pronounced look of agony.

In a few minutes he was quiet again but utterly exhausted. The case then passed from my observation, it having been proposed to remove him to a hospital in Pittsburg. He died the next morning at his home.

The scar left by the dog was a V-shaped cicatrix on the tip of the nose. The wound was not cauterized.

Case II.—The second case, that of W. L. Mitchell, Shields, Pa., occurred December 11, 1898, two days after Case No. 1. Both men were bitten on the same day, by the same dog, and on the face.

When first seen on the afternoon of the 11th, there was no rise of temperature. Pulse was 79. There was not observed at this time any difficulty in respiration.

The next day, December 12, there was the same condition seen as in Dr. Feucht's case. His wife said swallowing of liquids was impossible.

Upon the administration of an enema, the patient sprang from the bed, gasping and struggling for breath. His symptoms

from this time until he left to go to Mercy Hospital, were identical with the first case. Death came twenty-four hours later.

His wounds were a slight abrasion on right cheek and a scratch on the forehead.

The injuries were thoroughly cleansed and cauterized within an hour of the occurrence.

In the discussion following, Dr. J. A. Lipincott expressed his belief in the existence of such a disease as hydrophobia and further said that the society had a duty to perform in this matter, viz: to give some utterance of protest against the stray-dog evil on our streets in winter as well as in summer.

Dr. O. L. Miller believed we should have some means of combatting this disease in our own city, according to the approved methods, instead of being compelled to send our patients to New York or Chicago for treatment.

Dr. G. W. Hiatt spoke of a case which proved fatal despite the Pasteur treatment instituted in Chicago.

Dr. J. E. Rigg said that he thought there is enough evidence in support of Pasteur treatment to give us at least some confidence in it, and further, that he considered it impracticable in the hands of others than those familiar with it in established institutions.

Dr. C. S. Shaw reported a case seen by Dr. Pettit and himself, and called attention to the method and skill required to treat these cases in special institutions.

A vote of thanks was tendered Dr. Murray for his report of these recent cases, he not being a member of the Society.

Dr. Wm. B. Ewing presented a paper on "Acne," and exhibited slides bearing on his paper.

Dr. J. C. Dunn in discussing the paper called attention to the importance of constitutional treatment which should be directed to the kidneys, as these organs are often inactive. The injudicious use of the comedon-extractor was condemned.

Dr. C. C. Hersman mentioned a case of

acne cured by a subsequent attack of facial erysipelas.

Dr. J. M. Duff read a paper on "Some Important Considerations Connected with the Practice of Obstetrics."

He stated that he believed women are not receiving the attention in their pregnancies and labors that the present status of the science of obstetrics warrants. Two causes militate against successful midwifery; first, carelessness, ignorance, bigotry, or all combined, and second, the employment of midwives unfitted by the lack of education, experience and judgment. He also called attention to the fact that the laity does not appreciate the moral wrong as well as the physical dangers, both immediate and remote, of induced abortions; and also that, while at times it is eminently proper for the practitioner to treat threatened abortions expectantly, it is his duty in an unavoidable abortion to clean out the uterus at the earliest moment and thus avoid the possibility of septicemia and hemorrhage. He emphasized the fact that every pregnant woman is entitled to supervision by a competent physician, who should, under all circumstances, make a careful examination and be familiar with all conditions and arrangements, before the onset of labor. He urged that when puerperal convulsions occur, whether previous to or during labor, the uterus should be emptied as rapidly as consistent with safe work. Whenever placenta previa is positively diagnosed and hemorrhage occurs, labor should be brought on as early as possible by artificial means. He advised version in cases of breech, shoulder or face presentations prior to the rupture of the membranes. In face presentations with the chin to the front, pressure properly applied by a single blade of the forceps will aid rotation and delivery. In occipito-posterior bregmato-cotyloid, the case should be left to nature. If fronto-cotyloid, effort should be made to convert it into a bregmato-cotyloid; if unsuccessful, forceps should be applied. For shoulder presentations, podalic version is

advised with no attempt to replace the hand or arm if down. Finally he stated that all women should be examined about forty days after labor to ascertain the state of involution and the position of the uterus.

In discussing this paper, Dr. J. D. Thomas stated that he believed nearly all the cases of accidental abortion (not criminal) turned out pretty well and also that in occipito-posterior presentation, rotation does not take place until the head reaches the perineum when it will rotate so that instruments are unnecessary unless there is marked disproportion in the size of the fetus.

Dr. J. C. Dunn reported a case of spontaneous delivery with the arm and head presenting through a very roomy pelvis.

Dr. J. A. Lippincott inquired whether antiseptic measures were used in the vagina in all cases or only in suspicious ones, and called attention to the fact that a large proportion of the blind in this country owe their infirmity to gonorrheal infection.

In conclusion, Dr. Duff stated that as a general rule, he did not think it necessary to cleanse the vagina before labor in private practice, but when desirable he used creolin. He demonstrated the mechanism of occipito-posterior positions on the blackboard.

Dr. Lippincott exhibited a new method of asepsis for instruments, which consisted in keeping them permanently in a 20% solution of formol containing 3% of borax. The cutting edge of the knives was not impaired.

*J. I. Johnston,
Editorial Committee.*

MORTALITY AMONG THE SPANISH SOLDIERS RETURNING TO SPAIN.

The transport "San Ignacio" sailed recently from Santiago with 1000 Spanish prisoners. Of these, 123 died on the voyage. The high mortality among the troops returning in transports to Spain is ascribed by the Spaniards to the inhumanity of the Americans in compelling men in a critical condition to embark so that the Santiago hospitals could be cleared for the American sick.—(Med. News.)

Current Medicine.

THE EFFECTS PRODUCED IN THE FEMALE BY CASTRATION.

Pfister reports 179 cases of castration from the County Hospital of St. Gallen in whom he traced the immediate and subsequent effects produced by the removal of the ovaries. The investigation comprised the effect of castration upon menstruation, vicarious bleeding, molimina menstrualia, the libido sexualis, change in the sexual organs, general condition of the body, the influence upon the nervous system, and finally the therapeutic effect of the operation.

It is well known that after castration menstruation generally disappears. This view, first expressed by Hegar, agrees with the experience of most operators. In Pfister's cases menstruation continued in 5 per cent. The cause for this is probably best explained through Pflüger's theory. According to this theory ovulation is absolutely independent of menstruation. The nervous impulses from the ovary to the uterus travel through the ovarian nerves and the centres in the lumbar enlargement. The function of the ovaries is constant and non-intermittent. Through the gradual growth of the Graafian follicles the minute nervous filaments located in the ovarian tissue are irritated, which irritation is transmitted to the spinal nerve centres, to there accumulate until sufficient impetus is acquired to produce a reflex upon the vasomotor nerves of the uterus and ovaries. If at this particular period the ovary contains a follicle, the increased secretion of liquor folliculi suffices to burst the follicle; if not, the reflex wave passes without producing any changes in the ovaries. At the same time the uterine mucous membrane has been transformed into a decidua menstrualis; the reflex hyperemia affects the already distended capillaries until they rupture and thus form the menstrual blood. The impulse from the nerve centres supplies the finishing touch to the menstruation; and if this impulse

occurs at a period when the uterus does not contain a decidua menstrualis there can be no discharge of menstrual blood. Therefore the periodical appearance of menstruation depends, the first of all, upon the regular formation of a decidua menstrualis.

Usually the two functions necessary for menstruation appear simultaneously, and for most individuals it is the rule to menstruate every four weeks. Under some conditions one or the other factor of menstruation may be delayed and menstruation then becomes irregular. The dependence of menstruation upon the functions of the ovaries shows that with the removal of these organs menstruation must cease, and if the menstruation continues after castration it is evident that particles of the ovarian tissue escaped observation and were not removed. In such cases menstruation will continue until the entire remaining ovarian substance is used up. In some cases, although menstruation ceases, there occurs at irregular intervals vicarious bleeding—that is, an exudation of blood from other organs at the time when the menstrual period would normally occur. Pfister mentions 12 such cases, in two of which there was a well-marked intestinal hemorrhage and in another copious vomiting of blood. In the remaining cases vicarious menstruation was principally expressed by bleeding from the nose. Less typical, but still with a certain amount of regularity, castration shows its influence upon leucorrhœal discharges.

Already Hegar and others have drawn attention to the fact that after castration there is apt to be a decided increase of leucorrhœa. With the progressive atrophy of the genital organs the discharge gradually lessens and finally disappears altogether. An exception to this are the cases in which the ovaries were removed to influence the growth of the uterine fibroids. In this class of cases the discharge continues and is apt to increase. Phenomena usually observed after castration are various pains and discomforts which appear at the time and in-

stead of the menstrual period, and which are grouped under the term of *molimina menstrualia*. When the factors of menstruation are remembered the etiology of the symptoms is understood. The symptoms complained of vary in character; they are both local and general—flushes, nervous disturbances, sensations of heat followed by chilliness, vertigo, meteorismus, backache, abdominal pains, pains in the region of the ovaries, and also a bearing-down feeling and weight in the pelvic organs. These symptoms are most severe in the first months following the operation; they are apt to last about two years, and finally disappear entirely.

Pfister's investigations as to the *libido sexualis* are quite extensive and certainly important, because it is the one point upon which both patient and husband desire full explanation. To better understand the effects of castration upon this function it is advisable to briefly recapitulate its physiology. Here again the theory of Pflüger appears to be the most rational and conclusive one. The sexual activity of women depends largely upon the functions of the ovaries. The distension of the Graafian follicles reacts upon the ovarian nerves and is reflected upon the lumbar ganglia, from where erotic sensations emanate. To this are added the reflexes produced by body contact, all of which combine and result in the *libido sexualis*. From this it may be seen that the latter function also necessitates two factors, and that the absence of the ovaries is likely to diminish the sexual desire. At a period of sexual excitation the smallest external influences can arouse the *libido sexualis*, while at other times, when the sexual desire is not strong, even marked influences may pass without any effect. The glans clitoridis contains numerous nerve filaments, which end in the ganglia of Krouse. From the latter ensue the sensuous sensations during the actus, while the desire to intercourse originates in the ovaries. Thus the ovaries contain the nerve

centre, so to speak, of sexual desire, while from the nerve terminals of the glans clitoridis proceed the impulses to the brain, there to be perceived and which cause the final orgasm. Some observers state that the ovaries intensify the actions of the clitoric nerves. Practical experience, however, shows different results. Then Pfister found in nearly 50 per cent. of his cases no diminution of the libido; in the remaining cases the desire was lessened, and in some it entirely disappeared. It should be noted, however, that in most of the cases belonging to the latter category this function was diminished, or even absent, prior to the operation, being due in part to age, in part to protracted invalidism. Another important factor influencing the extent of the libido is whether the person is single or married. In married women the brain has received previous impressions which, to a certain extent, keep awake and prolong the period of sexual activity.

During the natural climacterium the ovarian substance changes into connective tissue, and the other genital organs, especially the uterus, become atrophic. Various authors have shown that after castration similar changes occur. The uterine atrophy is marked. Less constant are the changes in the vagina. Pfister's investigations show various instances in which this organ remained unchanged. As to the mammary glands, which must also be classed as genital organs, the results following castration are different. In some women the breasts become atrophic, while in others a decided increase in size was noted.

At the time of the normal climacterium the female body undergoes manifold changes, manifesting themselves in different parts of the organism. An especially marked phenomenon is the increase of adipose tissue. The expression of the face is changed, caused by a broadening of the lower jaws and greater prominence of the cheek. The waist increases in diameter and the hips grow broader and more massive. The uni-

form distribution of adipose tissue gives to the youthful individual the well-rounded and pleasing appearance. This changes with the advent of the climacterium, at which time the fat is deposited in parts in large quantities, while in other regions it disappears, leaving the skin loose and giving rise to the formation of furrows and wrinkles. After castration there is also a tendency to the formation of fat deposits, and in more than 50 per cent. an increase of the body weight was noted. There is, however, a difference between the changes of the natural and the artificial climacterium. After the latter the women retain their youthful appearance, and the fat deposits retain their symmetrical character and preserve the rounded contours of the body. In fact, castration seems to preserve appearance, and the changes of age appear later and are less marked. The hair is apt to retain its color, with an increased lustre. The complexion is clearer and wrinkles are rarely present. Even the eyes become more expressive and brighter. The hips and loins do not increase in width. The breasts, although smaller in size, remain round and firm and do not become flaccid and dependent as after the natural climacterium. The growth of superfluous hairs at the upper lips and other parts of the face, which so often disfigure the faces of women past the menopause, rarely appears after castration. The changes which after the natural climacterium appear quickly occur very gradually after castration and may extend over a period of years. There is, however, a certain regularity with which these changes take place. Pfister's investigation comprised 13 cases. In all of these menstruation ceased absolutely and was followed by an atrophy of the uterus; there was also a marked increase in the weight of the body, which in some of the cases amounted to obesity.

The influence upon the nervous system is quite marked and well pronounced. Most frequently women complain of flushes, varying in severity, and which may last from a

few months to several years. It should, however, be noted that in about one-half of the cases similar symptoms existed prior to the operation. The patients describe a peculiar sensation arising in the abdomen and extending upward toward the heart and lungs, giving rise to a feeling of heat and fulness in the head. Palpitation of the heart, vertigo, and buzzing in the ears may exist at the same time, but is frequently absent. The face appears congested and feels warm. The patient, however, complains of a chilly feeling extending down the back, especially in the centre, usually followed by profuse perspiration. These symptoms are most pronounced immediately after the operation and become more marked at regular intervals, which to a certain extent simulate the time of menstruation. In some cases these symptoms are most severe and produce actual suffering, while in others they are slight and hardly noticeable. In the latter cases the flushes soon fail to appear. Women very frequently complain of a headache having the character of true migraine. In many cases this has existed prior to the operation, but there are indubitable cases in which the headache appeared for the first time after the operation. A less frequent symptom is vomiting and nausea, also neuralgic pains involving the nerves, especially those of the lumbar plexus. Palpitation of the heart, hoarseness, inclination to cough, and insomnia are rarer symptoms. The nervous symptoms following castration are certainly more intense than those of the climacterium, probably owing to the fact that the loss of ovarian function is sudden and not so gradual as during the natural menopause, thus causing a greater shock to the nervous system. In judging the influence of castration upon the nervous system the fact must not be lost sight of that quite a number of patients have been sufferers for years, often to such an extent that they willingly embrace every opportunity to procure relief and are anxious to undergo an operation. It seems but ration-

al that in such cases the nervous system is also affected and that many of the symptoms predate an operation and are not altogether the result of castration. Pfister found from his inquiries that a depressed mental condition is the exception after castration, and in quite a few cases the patients became more cheerful and of a more sanguine temperament. As to the loss of memory, Pfister noted in 74 cases a decided weakening of the memory; in 38 cases no change was observed. Regarding the therapeutic result of the operation, Pfister states that a comparison before and after the operation showed decided improvement and that the result of the operation is apparently very favorable. In many cases years of suffering gave way to comparatively good health, and pronounced invalids became enabled to attend to their household duties. In the letters which were received in response to inquiries, many patients expressed themselves in terms of deep gratitude, and, although suffering from minor discomforts, most of them state that they enjoy comparatively good health.—*American Journal of Obstetrics and Diseases of Women and Children.*

SALICYLATE OF SODIUM IN TOOTHACHE.

Dr. Frederick C. Coley (*Practitioner*) believes salicylate of sodium to be the best remedy in toothache arising from catching cold. A dose of fifteen grains will usually relieve the pain promptly, and if repeated every four hours the inflammation may entirely subside, leaving the carious tooth to be disposed of according to circumstances. Fifteen grains of sodium salicylate with fifteen minims of tincture of belladonna, will often procure refreshing sleep instead of a night of agony. Dr. Coley's first experience of it was on his own person, and since then he has used it with many brilliant successes and few failures. It is especially valuable with children, where extraction of teeth is to be avoided, if possible, lest the development of the maxilla should be injured.—(*Medical Progress.*)

GINSENG IN KOREA.

Dr. Horace Allen, the United States Minister at Séoul, states that the Korean ginseng cannot be regarded as inert, however correct the opinion may be of those medical writers who have reported the American root has no therapeutic power. The root is the panacea for most of the ills of the Chinese and Koreans, and has held this reputation for centuries. It is regarded by these people as a strong aphrodisiac. Quinine has been shown to be so much more efficacious in the frequent malarial fevers of these countries that ginseng has lost some of its popularity in these cases; but, wherever a tonic or a "heating medicine" is needed, ginseng continues to be resorted to, and by combination with quinine its reputation will be enhanced rather than diminished. It is supposed to owe its great popularity in China to its properties as an aphrodisiac. The district where much of the Korean root is grown is hilly or mountainous. The climate is much the same as that of the northern portion of our Central States, except that here there is a distinct rainy season, some forty inches of rain falling during July and August. It is possible that our summers may be too dry for the successful cultivation of this plant. Michigan would probably be the best place for making an attempt at the cultivation. Wild ginseng is supposed in Korea to possess almost magic properties. Such roots are usually kept for the royal family. The cultivated ginseng requires seven years to mature. It is raised in little plots of richly manured soil, well mixed with leaf mold. The beds are carefully covered by mats or other protection, raised sufficiently to allow of cultivation and of the free access of air, and care must be given to keep the plants moist and free from weeds. As there seems to be almost unlimited demand for this root in China, it might as well be produced, in all its excellence, in the United States if possible. The American and Korean ginseng roots differ in appearance; the American seems to be

made up largely of fibrous roots called "beard," while the Korean root is more compact. The two are given different names by botanists. The Chinese plant is called *Aralia schinseng*, while the American is called *Aralia quinquefolia*. There is by some believed to be a difference in the effect produced by the use of these two roots. There is no market for the powdered root; the Chinaman who pays from a half-dollar to \$100 for an ounce of ginseng, wants all his money's worth. The powder might be made of any similar root of no value. Ginseng, like wine, increases in value with age. The best ginseng has been growing for 100 to 200 years. The Korean ginseng is supposed to arrive at perfection after thirty years, although it is used after six years. This is one of the reasons why ginseng is so high-priced. I take it for granted that the American ginseng is wild, and so may be of any age, even more than a century old. The age is told by counting the rings on the centre and side roots, or those parts resembling the torso and arms. Dr. Chung King-u, Imperial Medical College of Tientsin, resident surgeon of the Tung Wa Hospital at Hongkong, the only hospital in China which is devoted to Chinese medical practice, but which is under the supervision of a Chinese physician versed in western medicine, states that in his experience he has failed to observe any definite results obtained by the use of ginseng. Its use among the Chinese is entirely empiric, and its efficacy depends upon the imagination of the patient.—(Jour. Am. Med. Assoc.)

CONTRACT-SURGEON IN THE UNITED STATES ARMY.

For those seeking appointment the following requirements are exacted by the Board of Examiners: Evidence of graduation at a regular reputable medical college, diploma to be submitted to the board. Proof of hospital or other professional experience will be of benefit to the candidate. Candidates must be in good health, of reasonably sound physique, and citizens of the United States.

The examination is of a practical nature, embracing hygiene, practice of medicine, pathology, and surgery. In addition, a thesis on some professional topic will be prepared by the candidate. The pay of acting assistant-surgeons is \$150 monthly. The applicant must be free from physical defects which would incapacitate him from the military service. For further information, address Major H. S. Kilbourne, surgeon, United States Army, Army Building, 39 Whitehall street, New York City, President of Board of Examiners.—(Med. News.)

THE CONTAGIOUSNESS OF VENEREAL WARTS.

Payne gives the following conclusions to an article in the *British Journal of Dermatology*.

1. Warts may exist without any irritating cause. If this is present, it is not of the nature of cause and effect.
2. Warts may spread to the mucous membrane of the urethra and anus, where there are no papillæ of the skin.
3. Local irritation and discharges may exist indefinitely without causing warts.
4. Warts may occur soon after connection without the possibility of any long-continued irritation.
5. The overgrowth of papillæ in elephantiasis, and the warty condition of the skin near urinary fistulæ and callous ulcers, are not true warts.
6. Warts differ from condylomata in their mode of growth. The condylomata are mainly an overgrowth of connective tissue to which the epithelial covering is secondary. The wart is essentially an epithelial growth.

He mentions that the warts are often in the labio-crural fold, away from any discharge in the female, and in the male at the back of the glands away from the meatus. That the warts are independent of syphilis is shown by their frequent occurrence with no signs of syphilis. Warty growths in secondary syphilis are warty condylomata, and not true warts. Both warts and condylomata may occur in the same patient, the warts being more irregular and pedunculat-

ed, and remaining after antisyphilitic treatment.

The author considers the warts to be true tumors, and sums up as follows:

Cathcart, however, considers that venereal warts are contagious in themselves, and independent of local irritation and of syphilis. In support of this view he quotes three cases:

1. Warts on the genitals of a woman soon after marriage; previous warts on penis of husband; no discharge in either.
2. Gonorrhea and warts in the vagina of a recently married woman, acquired from gleet and a wart within the meatus of the husband.
3. Non-venereal warts on the hand, scraped by the medical attendant with his finger-nail, and subsequent development of warts under the nail.—(Medical Progress.)

RECENT STUDIES IN STARCH DIGESTION.

Dr. Henry Leffman (Phil. Polyclinic) has been engaged for a number of years in the study of the conditions interfering with starch digestion, especially as regards food-preservatives. For these experiments arrow-root starch has nearly always been used. Its advantages have been that it can be obtained in a high degree of purity and is rapidly and completely digested by ordinary enzymes. Lately experiments have been made with other starches, especially those of corn, potato and wheat, and the contrast between these on the one hand and arrow-root on the other has been very striking. The arrow-root is in a few minutes completely converted, the solution showing no trace of starch, but with the other starches the conversion is slow, unchanged starch being found for a considerable time. * * A principle that seems to grow out of these as yet limited researches is that in applying arrow-root starch as an ingredient of invalid diet, empirical practice anticipated scientific investigation, and a wider use of this starch may be advisable.—(North Carolina Med. Journal.)

DANGER OF CURETTEMENT AFTER ABORTION.

While it is undeniable that a curettement in some cases of abortion is an almost indispensable operation, it is also true that it is not as simple as is commonly supposed. The dangers of a curettement of a soft, friable uterus are again demonstrated in the report of a case of Dührssen. In a case of abortion pieces of placenta were retained within the uterus, which Dührssen and another physician attempted to remove with the curette. The placenta, however, was so firmly adherent that the operation was suspended and the uterus tamponned with iodoform gauze. Forty-eight hours afterward the tampon was removed; it was then possible to introduce the finger within the uterus and remove the particles of placenta. At the same time the discovery was made that there were defects in the uterine wall, and, as there was also considerable bleeding, it was deemed advisable to remove the uterus per vaginam. The examination of the extirpated organ showed that portions of the uterine wall were removed by the curette. Such an accident in the hands of so competent an operator as Dührssen should, if nothing else, lead to the exercise of the greatest care in curetting the puerperal uterus.—(Am. Jour. of Obstetrics.)

A NEW METHOD OF DISINFECTION OF DWELLINGS.

Before the Berliner Medicinische Gesellschaft, meeting of March 9, 1898, Dr. Schlossmann described in detail his method of house disinfection. He uses formaldehyde in his apparatus, formaldehyde being the antiseptic most frequently employed during the last decade in the new experiments on this subject. In the apparatus is placed a mixture of water, glycerin, and formaldehyde, which mixture is then boiled; in this wise not only the vapor of formaldehyde but also water gas is generated in the room, and there is reason to believe that the glycerin enters into chemical combination with the formaldehyde, thus enhancing the effect of the latter. By this method and with this

apparatus, it has been possible to sterilize in three hours six or eight layers of gauze thoroughly soaked in pus; similar experiments with other infected material have been made, always with good results. It is not necessary to seal either windows or doors. The atomization causes a heavy, dense, smell. Guinea-pigs left in the vapor die of pneumonia; this effect can be prevented by leaving some liquid ammonia in the room.—(Medical Record.)

CLIMATE AND HEALTH OF HAWAII.

Lyman, (*Med. Rec.*, Nov. 5, 1898) says that no more delightful or wholesome climate exists in any other part of the world. Owing to the insular position of the territory and the peculiar circuit of the currents throughout the Pacific Ocean, the extremes of heat and cold are unknown, and the hurricanes and typhoons that devastate the West and East Indies never occur. Prior to the wars of conquest a century ago, the native population was redundant. Since the advent of Captain Cook that population has steadily diminished, not in consequence of insalubrity of natural environments, but by reason of certain infectious diseases, to which the aborigines were utter strangers before their contact with foreigners. Chief among these were syphilis and tuberculosis, which were propagated among the people with fearful rapidity as a consequence of their promiscuously affectionate habits. The introduction of measles from California in 1848 is usually cited as having decimated the population. This statement is not exactly correct. The disease spread so rapidly that nearly every one sickened at the same time, but it was not unusually severe. The natives, however, knew nothing of the proper treatment of the uncomfortable fever, and sought relief in frequent baths in the waters of their mountain streams and alluring surf. Almost immediately they were attacked with inflammations of the respiratory tract and alimentary canal. While thus struggling, a world-epidemic of influ-

enza reached the islands, and attacked every person there resident. Before this infliction had passed away, the Californians sent them some choice specimens of whooping-cough, which started a third epidemic that raged with great severity among the children. Scarlatina was also imported, but did not prevail extensively.—(Internat. Med. Magazine.)

HOW TO REMAIN YOUNG.

To drink of the waters of the fountain of youth is still, in the opinion of some, within the range of possibility. A recent writer observes that man began in a gelatinous condition and ends in an osseous or bony one. He is soft in infancy; he is hard in old age. Ageing is a process of ossification. After middle life has passed a more marked development of the ossific character takes place. The arteries become thickened with calcareous matter, and there is interference with circulation, upon which nutrition depends. The whole change from youth to age is one of steady accumulation of calcareous deposits in the system. Entire blockage of the functions of the body is a mere matter of time, and the refuse matter deposited by the blood through the system stops the delicate machinery we call Life. The blood contains compounds of lime, magnesia and iron. In the blood itself are these earthy salts. In early life they are thrown off; in age they are not. Almost everything we eat contains these elements for destroying life. Earthy salts abound in the cereals, and bread itself, mistakenly called "the staff of life," is one of the most calcareous of edibles. Nitrogenous food also contains these elements, hence a diet made up of fruit is best for people advanced in years. The daily use of distilled water is, after middle life, one of the most important means of preventing secretions and derangements of health. Diluted phosphoric acid is one of the most powerful influences known to science for shielding the human system from the inconveniences of

old age. Use it daily with distilled water, and so retard the approach of senility. To retain perpetual youth avoid all foods rich in the earth's salts, use much fruit, especially juicy, uncooked apples, and take daily two or three tumblerfuls of distilled water with about fifteen drops of diluted phosphoric acid in each glassful. Thus will our days be longer in the land.—(Medical Age.)

HOW TO MAKE KUMISS.

The *Dietetic and Hygienic Gazette* for August says that the value of kumiss as a nutriment and stimulating beverage in cases of general debility, malnutrition and wasting diseases is well established. The original form of this beverage, as made in Tartary by the fermentation of mare's milk, is of course seldom available, and is by no means necessary. A very good and useful kumiss may readily be prepared as follows:

Fill a quart champaign bottle to the neck with pure cow's milk; add two tablespoonfuls of white sugar, first dissolving it in a little water by the aid of heat; add also a quarter of a two-cent cake of compressed yeast. Then securely fasten the cork in the bottle and shake the mixture well; place it in a room having a temperature of from 70° to 80° F. for six hours, and finally in the ice-box for about twelve hours. It is then ready for use and may be taken in quantities varying with the requirements of the stomach and general condition of the patient. In preparing the kumiss it is well to make sure that the milk is pure, that the bottle is sound, and that the yeast is fresh. The bottle should be opened with great care, on account of the effervescent properties of the mixture, and the latter should be discarded and not drunk at all if there is any curdle or thickened masses resembling cheese, as these indicate that the fermentation has been prolonged beyond proper time. It should be prepared as required for use. The virtue of kumiss resides in the fact that it nourishes, refreshes, and stimulates, with no subsequent reaction

from its effects. Kumiss contains some alcohol, with fat, casein, lactic acid, and carbonic acid gas. The cost is about fifteen cents per quart, including the bottle.—(Medical Age.)

DIPHTHERIA IN LONDON.

F. A. Dixey (*Med. Press*, Oct, 12, 1898), reviewing the statistics for the past two years, finds that the amount of diphtheria is still high, but is diminishing. The seasonal relations are the same as heretofore. The interruption to the usual course of mortality coincident with the two chief school holiday periods is again apparent. The new evidence, like the old, tends to show that school-infection is an important factor in the spread of diphtheria. The decreased mortality coincident with the employment of antitoxin has continued.—(*Internat. Med. Magazine*.)

HUMANITY OF A SPANISH SURGEON.

During the infantry skirmish following an attack on the leading party from the *Gloucester* at Guanica, Porto Rico, one of the volunteer soldiers, outrunning his comrades, advanced far ahead of his line. When he had nearly reached the Spanish position, he was overcome by the heat and fell in a semi-conscious state. A Spanish doctor and two hospital corps men rushed to his aid with a stretcher, administered the necessary restoratives, and had him conveyed at once within the American lines.—(*Medical Record*.)

POTASSIUM PERMANGANATE IN LUPUS.

Kaczanowski has cured thirty-four cases by dusting the surface with 2 to 5 milligrams of potassium permanganate, after removing the crusts with vaseline and warm soapy water. One application proves sufficient; the scab falls in fifteen days and the patch heals. A nitrate of silver salve hastens the cicatrization. The application of the permanganate is painful, but bearable, and no worse than other caustic remedies.—*Semaine Med.*, October 19.

NECESSITY OF INTESTINAL BACTERIA.

Schottelius recently raised some chickens from the egg in absolutely aseptic conditions, with the result that the fowls did not thrive like the control-chickens, but gradually dwindled away and died by the seventeenth day.—*Munich Med. Woch.*, No. 36.—(*Jour. Am. Med. Asso.*)

The following story is told of Professor Koch, who has been studying malaria in the hospitals of the Eternal City: According to *La Tribuna*, in the Sancto Spirito Hospital he came across a patient with pernicious malaria, admitted apparently in a dying state. He asked that this body might be kept for his examination. The next day the corpse greeted the professor with a very significant smile. A cure had been wrought by the intravenous injection of quinine according to Professor Baccelli's method. The case is said to have made a deep impression upon Professor Koch.—(*Medical Age*.)

Doctors Lee, Vaughan and Shakespeare, who constitute the commission appointed to investigate the American army camps, have concluded their labors and report that the pestiferous fly is responsible for the occurrence of the disease. The fever was brought by the volunteers from the State camps, and the flies scattered the germs by feasting alternately on feces, hardtack and "sow belly." This finding is the result of inquiry at the camps in Chickamauga, Huntsville, Fernandina and Jacksonville.—(*The Physician and Surgeon*.—*Columbus Med. Journal*.)

One drop of croton oil dissolved in 30 drops of chloroform and one ounce of glycerine, given at night on an empty stomach, followed in the morning by sufficient castor oil to purge well, will remove tape-worm.

Salicylate of Sodium, in doses of 10 to 15 grains—sufficient to induce sweating—given in hot water or hot tea, chamomile, boneset, etc., will rapidly dispel the pains and general discomfort of influenza.

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Addresses.

ARTERIO-SCLEROSIS.

By JAMES T. WHITTAKER, M. D.,
CINCINNATI, OHIO.

[Address delivered at the annual reception of the Allegheny County Medical Society, February 2nd, 1899, Pittsburg, Pa.]

Why does a man grow old? What makes him grow old and die? Is life the gradual expenditure of an initial force? Is it like a stone which is thrown up into the air and which, the force spent, falls to the ground? Or, is it like a watch which when wound up runs its twenty-four hours, a few perhaps a few hours more; or a clock, which runs a day, or seven days, or fourteen days? It does not satisfy an inquiring mind to say that the individual is endowed with a certain amount of vitality from the start for the term vitality itself is too vague. There

are those who believe it to be correlative with other forms of force. Why does an insect live but one day, an elephant a hundred and a crocodile five hundred years? So far as we can see the vitality is the same in all.

It is no satisfaction to say that we live as long as our parents. Though there is something in heredity, the assertion that "like begets like" is a declaration, but is not an explanation. The comparative anatomists assure us that man is entitled to live a hundred years. Why does he not live a hundred years? Three score and ten was the period allotted long ago, and "by reason of strength" a few go beyond it. It may be said as a general thing that a man shows the changes of age at seventy, but we know that some men are old at forty and some are young at seventy. The mere number of years does not determine the amount of change which we usually call senile.

Nevertheless, we appreciate that changes

increase as age advances, and the accumulation of a certain number of these changes produces the signs of age. Senescence begins when the substitution of protoplasm by connective tissue is sufficiently extensive. Thus the individual insensibly fades out of existence. That is, finally, they destroy life.

Where does this change first show itself? Is it in the blood? If it does, we have no way of appreciating it. The blood changes all the time. The blood is a "peculiar juice," but experiments with transfusion show us that a large quantity of it can be washed out of the body in certain diseases—uremia, for instance—and substituted with hot salt water with benefit rather than harm. But we cannot take cognizance yet of the finer chemical changes in the blood.

Is it in the nervous system? It is certain that changes in nutrition follow lesions of the nervous system. Giovanni cut the trunk of the great sympathetic in the neck of the dog and observed later atheromatous spots in the arch of the aorta and the descending aorta. Botkin found endarteritis frequent after paralysis, and Huchard saw atheromatous change in the arteries of a man who had previously suffered from brachial neuralgia. Vessel lesions are shown especially in *tabes dorsalis*. Letulle spoke of atheromatous changes, atrophy, lesions of the aortic orifice, general arterio-sclerosis. Martin found in a case of *tabes* endarteritis in the meningeal arteries parallel to the posterior columns the whole length of the spinal cord, while the finer arteries and all the rest in the periphery of the spinal cord were perfectly healthy. Fränkel found hypertrophy of the media in the finest arteries in *tabes* and after section of the tibial nerve.

Sander examined the central nervous system in a patient aged 67 who had died of paralysis agitans, and found the most extensive degeneration of the fibers of the cord. The Weigert method showed also a pronounced exuberance of the glia, to-

gether with arterio-sclerotic processes in the finer and finest vessels. These exuberant processes in the neuroglia of the gray substance were found also in the spinal cord of the aged who had not suffered with paralysis agitans in life, but who had nevertheless been affected with marked tremor, so that the condition has a certain significance. Regressive changes of the vessels were found in every one of 36 different diseases of the nervous system. (Samuel.) We are not surprised to learn then that Lancereaux considers atheroma as a trophic lesion of the nervous system.

But if the changes begin in the nervous system they are too fine for recognition at the start. When we speak of such change as molecular, we assume something that we cannot demonstrate.

Is it in the glands that have to do with nutritive change? It is said that Lancereaux is treating all his cases with iodothylin. But all this is mere speculation as yet. So far as we can see with the eye, aided or unaided—and it is of this only that we have a right to speak—the first changes begin in the blood vessel wall, and they consist in those alterations of structure which are grossly marked by hardness, and though manifold in character are summed up under the term arterio-sclerosis.

Individuals differ much as to the time of occurrence and degree of this degeneration. It shows itself somewhere in the body as early as the age of thirty-five; on the other hand, certain individuals reach advanced age without it. Perhaps it would be more true to say that individuals reach advanced age because of the absence of it. Hence, the common saying, first by Cazalis in 1849, is true, that "a man is as old as his arteries."

The changes in the arteries show themselves before the first wrinkle of the skin, before the first gray hair, before the first weakening of the intellectual faculties or the first diminution of ambition, energy or capacity for work.

Why do these changes show themselves first in the arteries?

We are ignorant of many of the real reasons why certain animals live longer than others, but we may see as a general rule that the most highly differentiated and most complex organisms perish the soonest, while the more sluggish, cold blooded animals live the longest. The same thing is true of the tissues. The most highly differentiated, delicate structures succumb the soonest, while the lowest, easiest developed and quickest furnished tissues live the longest. The highly differentiated structure is unable to restore itself. Thus brain cells are not reproduced. Breaches are repaired by structures of low grade in the animal economy. The blood vessel perishes soonest because it belongs among the most complex, the highly differentiated and noblest structures of the body. We have to get rid of the idea that blood vessels act simply as inert tubes for the conduction of fluids. On the contrary, these structures are developed with the first formation of the cells, many of which they surpass even in complexity of structure and dignity and variety of function. Thus, so far from being mere conduits the blood vessels have the power of dilatation and contraction whereby they sometimes exclusively effect the circulation, or in all cases facilitate it, controlling the blood supply to individual organs, regulating osmosis along with the most mysterious processes of metabolism.

Even the coarse variation of the size of the blood vessels does not depend exclusively on muscular contraction and dilatation. Much of it is due to the action of the cells which compose the wall of the capillaries. These cells may swell and shrink like other independent protoplasm, and thus increase or decrease the calibre of the capillary tube. Thus Biedl found that the injection of a 0.6 solution of common salt produces a remarkable contraction of the vessels in consequence of thickening of the walls, the interior of the vessel remaining

smooth and uncorrugated. The condition, therefore, is not that of a contraction or shrinkage, but is a thickening of the vessel wall, a so-called vital phenomenon. When the solution of common salt is washed away the wall becomes thinner and the lumen larger.

The first signs of age are shown in the blood vessels because they are the most highly differentiated delicate and sensitive structures of the body, and breaches in them are repaired with connective tissue because of the impossibility of substitution with natural tissue. New vessels may be formed in new tissues, but old vessels cannot be repaired with new tissue.

What, now, are the changes which take place in arterio-sclerosis? They are of various nature. They both harden and soften the arterial wall. In any event they destroy the natural consistency, and in doing so they take the life out of the tissue and rob it of its high endowments by the substitution of inert matter.

The arterio-sclerotic process begins with an oedematous infiltration in the depths of the intima, which forces apart the connective tissue fibres and elastic laminae. The connective tissue loses its fibrous structure and undergoes hyaline degeneration. The fixed intima cells are partly destroyed and partly undergo proliferation about the diseased focus, with immigration of round cells. The intima thus becomes thickened and the deepest layers changed into necrobiotic masses, in which are deposited cholesterolin and fatty acid nodules, which soften to constitute the well-known atheromatous porridge-like mass. The process is a degeneration. It cannot be ascribed to pressure because pressure is uniform, while the sclerosis is localized to solitary plaques.

Every kind of pathological process takes place in the degeneration of the blood vessels, the hyaline, the amyloid, the fatty and calcareous. The hyaline and amyloid changes predominate chiefly in the smaller

vessels, and the fatty and calcareous in the larger vessels.

In the hyaline degeneration one gets the impression as if the vessel wall was permeated by a fluid which then sets into a gelatinous mass. It is probable that the colorless blood corpuscles and blood plaques may furnish the material for this hyaline substance. It resembles the amyloid change, and part of it may pass over into amyloid matter.

The hyaline matter hardens, but in degenerative processes may subsequently soften and form the so-called atheromatous (*αθηρῆ*, porridge) ulcer. This porridge-like matter was the *pulticula* of the Romans, the *bouillie* of the French and the *pap* of the old English writers. The ulcerative process may discharge itself into its own or more frequently into a contiguous vessel, sometimes with disastrous effects. Thus the great sculptor, Thorwaldsen, fell dead in a theater in Copenhagen to the consternation of the house and the grief of the whole art world, and upon post mortem examination it was found that an atheromatous ulcer or abscess of the heart had broken bounds and suddenly discharged its contents into the coronary artery.

Arterio-sclerosis, while usually progressive, is not a uniform process. Thus the process may be extremely limited to a patch or plaque in the thyroid, temporal or brachial arteries. In staining with polychrome or methylene blue it is seen that the coloring matter is taken up in spots here and there and not uniformly. "I have had a feeling of awe," said Sutton at an autopsy, "in looking into the body and finding only one spot of disease resulting in an aneurism which proved fatal, all the rest of the body being perfectly healthy."

On the other hand, the process may be so extensive as to involve the whole of the aorta, constituting what is called a general atherosclerosis, and yet be found nowhere else. Sometimes the artery of the arm is involved from the wrist to the axilla. Most unfor-

tunate are the cases in which there is but a minute deposit in the aorta—a ring or a plaque—so situated as to block the orifice of the coronary arteries.

So the disease shows itself in forms, general and local. Runneberg, of Finland, distinguishes three forms—

1. Localized arterio-sclerosis in medium-sized vessels with local symptoms, whose chief type is the syphilitic sclerosis.
2. General sclerosis in the smallest vessels of the granular atrophic type with principally general symptoms.
3. General sclerosis in medium and large arteries with mixed and general local symptoms the senile sclerosis.

Rokitansky, with whom Lobstein and Curci in the main agree, gives the order of frequency of affection as follows: Ascending aorta, arch, descending aorta, splenic, iliac and crural, coronary, carotid and vertebral. The most rarely affected are the arteries of the stomach, liver and mesentery.

Lobstein particularizes as follows: The arch of the aorta, divisions of the aorta, the abdominal, thoracic aorta, splenic artery, abdominal aorta, femoral artery and its branches, spermatic, hypogastric and its branches, coronary arteries, branches of the subclavian, angle of division of the common carotid, arteries of the brain, branches of the external carotid, arteries of the chest and abdomen, brachial branches, branches of the umbilical, the small arteries of the brain, pulmonary artery.

Outside vessels are felt easiest, but sclerotic changes are more frequent in the interior than in the exterior. The most interest attaches to the smallest vessels, and here it is seen that the vessels of the kidney, brain and heart suffer most. Next come the vessels of the skin, and last the vessels of the organs of digestion. In the kidney the process is most marked by induration, in the skin by thickening to such degree as to constitute occlusion, in the brain by dilatation to produce the miliary aneurism.

What are the effects of arterio-sclerosis? These various degenerations weaken the wall of the vessel and permit distention to form the miliary aneurism in the brain or the larger aneurism elsewhere. On the other hand, the deposit of connective tissue or calcareous plates may strengthen the wall of the vessel to enable it to endure greater resistance than before.

Arterio-sclerosis interferes with all the functions of the arterial wall. It lessens the power of contractility and elasticity; it increases the resistance; it diminishes the lumen, and it interferes with osmosis and metabolism. John Hunter found that the aorta, for instance, could be stretched to twice its length, but that it would return to its natural size on release of the force. When the aorta suffered from atheroma, the vessel, like an old piece of India rubber, had lost its elasticity to such a degree as to shorten but little after distention. The difference in elasticity and resistance was demonstrated by Polotebnow, who found that elongation is less in arterio-sclerotic arteries than sound arteries, and that sclerotic arteries are less resistant. Arteries whose walls on account of sclerosis had been more or less uniformly thickened supported a pressure of mercury only 20 to 25 cm. At a height of 28 to 30 cm. the inner and middle coats burst, and quicksilver oozed through the external coat as though through a sieve. But if the artery contained only one or several sclerotic plaques, the walls would not sustain a pressure of 15 cm. In these experiments there was no trace of dilatation of the artery before rupture. But when the adventitia was thickened by cicatricial tissue and the media and intima were atrophic, the artery would sustain a pressure of 120 cm., not only without rupture, but without allowing the mercury to ooze through the wall. Sclerotic arteries are dilated and elongated. This is observed in the ascending aorta and in the arch of the aorta, and especially in the medium-sized arteries, brachial, femoral, radial. Elongation

shows itself in medium and small arteries in convolutions and tortuosities.

As the term indicates, in the sclerotic process the arteries become hard, and the induration is especially manifest in the calcareous degeneration. Sometimes the whole course of the artery, from the wrist to the axilla, may be traced as an indurated cord, having the feel of a pipe stem, a slate pencil, numerous fissures or cracked across, or of a chain of beads. The elongation is manifest in tortuosities. This condition is best seen in the temporal artery. These are the coarse changes. The first effects then are lessening of the contractility and elasticity, with diminution of lumen even to closure, and further the formation of aneurism and rupture of the vessel together with the formation of thrombi.

The finer changes of the interior vessels display themselves in their effects, and are best studied under symptomatology.

History. As might have been expected, the first contributions come from symptomatology, and the tragic pictures of angina pectoris could not fail to attract attention. So Rognon, of France, and Heberden, of England, keen observers, first called attention to the changes of the arteries in this disease. This was in 1760. But there was an observer in the field more acute even than either of these. We think of Jenner in connection only with vaccination, but the faculty which enabled him to make this discovery did not blind him to other studies, and among his various contributions was the observation of the calcareous changes found in the coronary arteries in a case of angina. In one autopsy the grating of the knife upon the calcareous particles was so distinct as to cause him to look to the ceiling to see if plaster had not fallen. Jenner soon appreciated the significance of this change. He wrote to Heberden about it, but he was loth to publish it, he said, because it might meet the eyes of John Hunter, whom he knew to be affected in this way. John Hunter died, as we know, suddenly

in a fit of emotional excitement, and sure enough, the arteries of his heart were found to be as hard as pipe stems.

Lobstein seems to have been the first to have used the term arterio-sclerosis in description of the condition. This was in 1835. He speaks of the inflammation of the arteries as an arteritis, of the thickening of the arteries as an arterio-sclerosis. He uses also the term ossification. In our day the term arterio-sclerosis is confined to the smaller vessels, atheroma to the larger. The real atheroma is reduction to a pulp mass under these degenerative changes. We see this condition chiefly in the larger arteries, but it is preceded and caused by arterio-sclerosis of the nutritive vessels. These observations were all post mortem, and so little was known of the condition in life that Lebert, as late as 1861, confesses in his chapter on the atheroma of arteries that we know of no symptoms to enable us to distinguish the disease in life or arrest its progress.

We all remember the excitement which was created by the publications of Gull and Sutton, 1872, regarding the general dissemination of what they called "arterio-capillary fibrosis." This condition, they said, is a hyaline fibroid formation in the small arteries and capillaries, probably beginning in the kidney, which it shrinks, though the shrinkage of the kidney is only a part manifestation of a general change, for they may be but little affected while the disease is pronounced in other organs. This contribution was the sensation of the day.

Peculiar interest attaches to this condition, as the pathologist has always seen in it the precursor, if not the cause, of the senile change. Many corroborative contributions were subsequently made, especially by Traube, Mussy and Leyden. I remember myself the great interest which was excited in an International Congress by the contribution of Mahomed, who died too soon, to the symptomatology of this disease. Mahomed was the first to show that the general

arterio-sclerosis was always preceded by an increased tension in the arteries. He cited 61 cases, which all showed this increase of pressure in connection with hypertrophy of the heart. This was in 1884. But the monumental work on the subject was published by Huchard in 1893, after ten years of labor in this field, with full description of symptomatology. The latest contribution is an article on arterio-sclerosis by Edgren, of Stockholm, which consists of a critical review, with deductions, of 124 cases, of which 34 came to autopsy.

ETIOLOGY.

Age. The changes of arterio-sclerosis begin to show themselves in the body about the age of thirty-five. One-half of all the cases occur between the ages of thirty and sixty, one-fourth between sixty and seventy. It may be understood that there is a great difference in individuals. Harvey said of Thomas Parr, who died at the age of 152, that he found no trace of atheroma in his body. This finding referred, of course, only to changes visible to the naked eye. On the other hand, Dumange said that in the examination of five hundred bodies of old people he never saw one free of atheroma. He could always find yellowish spots and fat in the large vessels. The finer arteries are always changed in old people. Certain diseases make the changes manifest sooner. Thus Mussy found eighty of one hundred and sixty cases under forty-five. Cohnheim saw sclerosis of the aorta and aneurism six times in individuals under twenty-five, and both conditions often in patients under thirty. Leubuscher found atheroma of the temporal artery pronounced in a boy of weak intellect aged fifteen. The changes of arterio-sclerosis multiply in such degree as age advances, as to constitute what is commonly called the physiological senile decay. There is, however, nothing physiological in arterio-sclerosis. The old man shows the most abundant changes, just as the soldier who has been in the most battles shows the most numerous wounds.

Syphilis. A factor of overshadowing importance is syphilis. Heubner, as long ago as 1874, called attention to the changes of endarteritis of syphilitic origin. In these changes the intima thickens to such an extent as to constitute the well-known endarteritis obliterans. This condition may be encountered in every organ, but is especially manifest in the liver, where it is responsible for a special form of cirrhosis. Syphilis of the heart, of the lungs, of the kidneys, etc., consists not only in the deposit of gummatous matter, but also in this thickening of the lining membrane of the blood vessels. Syphilis is also responsible for remote lesions from the process of arterio-sclerosis. Aneurism is so often a result of syphilis that, independent of trauma, we are loth to accept a diagnosis without pre-existent syphilis. Welch, Malmsten, Puppe and Fraenkel give percentages varying from ten to eighty. Aneurism is mostly found in adolescence or early maturity. The same thing is true at even a remoter period of the life of the individual, of tabes dorsalis and progressive paresis.

Alcohol. The first factor is age—indirectly as we have seen—the second is syphilis, the third is alcohol. We are partly responsible for the evils of alcoholism. Perhaps no single assertion has wrought more evil than the statement that “wine is the milk of old age.” It is true, that alcohol in certain quantities is food, but it is, aside from certain cases of disease, by no means the best food, and the difficulty of securing purity and of limiting quantity easily leads to that excess which is injurious in high degree. The view that alcohol furnishes force and enables individuals to undertake greater effort meets with no support in the scientific investigations in our day. On the contrary, alcohol lessens the power of endurance, either to muscular effort, to cold or to depressing mental emotions. It does check the waste of the body, but it also retains the waste products in the body. Thus

the alcoholic secretes less urea, less sulphates and less phosphates. Albu, following the studies of Bouchard, showed that the urine of any animal in health contains in 52 hours enough toxic products to kill it. Anything which interferes with the excretion of these products is bad for the animal economy. So the alcoholic can endure less fatigue. He breaks down easier; he becomes more emotional; his time runs more rapidly, for the alcoholic, as Roy-Tessier observed, “his years are doubled and trebled.” He means that they run through so much more rapidly. The differences between the American and Spanish soldiers were dependent, not entirely, but largely, upon the use and abstention from alcohol. The soldiers under Kitchener accomplished their forced marches across the fiery deserts without thirst, and were enabled to go into battle fresh and strong only under abstention from alcohol. So well established is this fact that alcohol has been abolished in the English service during the fighting with ships, and provision has been made to allay the intense thirst by the distribution of vessels containing hot barley water about the ship. Arctic travelers have long ago learned that they may resist the cold of the extreme North with the use of hot tea, while alcohol makes them ready victims.

The first evils of alcohol are felt in the vessels. Alcohol stimulates the heart, it is true, whereby for a time a greater quantity of blood is sent to the brain, but under the reaction which follows the brain is benumbed by the accumulation of toxins and the heart is soon overtaxed. For alcohol not only stimulates the heart, but it also contracts the blood vessels through the vaso-constrictors, and in this way throws extra work upon the heart. It acts precisely as do the toxins of Bright's disease, which stimulate the vaso-constrictors and lead to hypertrophy of the heart. Alcohol is itself a toxin, a product of the micro-organisms of fermentation. So a knowledge of the true nature of its effects sounds the knell of alcohol.

Infections. Certain infectious diseases are thought to initiate or increase the process of arterio-sclerosis. Mention has already been made of syphilis. According to Landouzy and Siredey, joint rheumatism holds the first place among the acute infections in the production of changes in the blood vessels. Typhoid fever comes next. Rosenbach gives the preference to diphtheria, scarlet fever and protracted pneumonia. We are even now familiar with the frequency with which influenza gives the coup de grace to the sick or debilitated and the aged.

Therese, to prove the role of the infections, injected into the bodies of rabbits and guinea pigs virulent and half virulent cultures of different bacteria, observing accumulations of round cells in the lumen, in the neighborhood of the wall of the capillaries of different organs, sometimes entirely surrounding a vessel. The accumulation of leucocytes is attributed to the chemotactic effect of toxins. Martin found these changes in early childhood after diphtheria, angina, erysipelas, etc. Toxins affect the contractility of the vessels like ergot and lead.

Other Causes, Work, Worry, etc. Hard work is a cause which operates by overstrain of the muscles of the blood vessels as well as of the heart. It was DaCosta, in our country, who remarked especially upon this condition, and Leyden and Schott afterwards dwelt upon it. Moreover, hard work leads to overproduction of toxins and accumulation under defective elimination. Stricker finds that the nerve centers of the vaso-vasorum are kept in a constant state of irritation under the exhaustion of hard work as well as under the stimulation of carbonic acid gas, which accumulates at this time. The hard working farmer secures a greater exemption, Edgren says, than the artisan, on account of the better oxygenation of his tissues and better hygiene in every way.

The French find the condition oftener

among intellectual men, statesmen, politicians, actors, financiers, due probably to irregularities in diet, insufficient sleep, sedentary life and greater anxiety. Worry is even a more frequent cause. It damages the brain cells which preside over nutrition. It inhibits trophic processes. Everyone is familiar with the rapidity with which senile changes set in under depressing mental emotions. Men who reach middle life without much prospect of success are apt to break rapidly. Balfour speaks also of the anxieties attending success which has outgrown physical capacity.

Obesity is a factor. It was Fraenkel who first called attention to the plethora of the abdominal viscera which leads to stasis in the veins, because the portal vein has no valves. Arterio-sclerosis is noticed also with uncommon frequency in cholelithiasis and nephrolithiasis. The coincidence of gout is so common as to have led to a consideration of cause and effect. But it is probable that the arterio-sclerosis and gout are the results of a common cause. Arterio-sclerosis may generally be found also in patients affected with cancer. Diabetes, one bad form of it at least, is due to arterio-sclerosis of the pancreas, and another incurable form is ascribed to arterio-sclerosis in the nervous system. Rheumatism, especially chronic rheumatism, is a predisposing cause. Murray found 67 cases of arterio-sclerosis among 208 arthritics. Arterio-sclerosis may be nearly always found, also, in individuals affected with migraine, asthma and certain neuralgias, and is so frequent in neurasthenia as to have been looked upon as a cause of the condition.

SYMPTOMATOLOGY.

The coarse evidence of arterio-sclerosis in the alterations of the vessels has been referred to already. The manifestations of aneurism constitute a condition apart, as does also the obliteration of the great trunks in the extremities, and gangrene of the skin, which may occur from obliterating endarteritis. In the domain of internal

medicine we are interested especially in the finer changes which announce the first development of arterio-sclerosis. We lament often the fact that we cannot see the beginning of the arteromatous change in the internal vessels. Some comfort may be found in the attempt at illumination of these structures with the Roentgen ray. Hoppe-Seyler made two skiagraphs showing the sclerotic changes in the vessels, and Knoll, of New York, got a clear picture of a calcified brachial artery in a man aged eighty. Williams, of Cambridge, has made some pretty demonstrations of calcified vessels in the chest. Beck, of New York, published two fine plates in the *Deutsche Med. Wochenschrift*, Feb. 17, 1899, illustrative of the changes of arterio-sclerosis in the radial arteries. These things are, however, more intimations than demonstrations. The beginning changes of arterio-sclerosis may not be made visible as yet, and the changes in the vessels of the kidney and brain may not be seen as yet.

Nevertheless, the condition shows itself in its effects, for arterio-sclerosis not only produces changes in the blood vessels themselves but also in the organs which the vessels supply. These changes make themselves manifest in defective supply. The organs show the loss of what is called functional hyperæmia.

The Brain. The brain, the most sensitive organ, appreciates it first. Thus the individual feels first a lack of energy, of the power of concentration, of sustained effort. The memory is impaired. The intellectual faculties suffer while the lower emotional nature assumes control. In any attempt at sustained effort, the brain becomes easily fatigued. It must rest awhile before the labor can be resumed. This is because the arteries have lost the power to "bleed into the brain" and furnish it with fresh blood. Among the head symptoms are to be mentioned migraine, neuralgia, clonus, spots and sparks before the eyes, and ringing in the ears.

Later on coarser symptoms may show themselves, vertigo, aphasia, interference with speech, and still later on the grosser symptoms of softening of the brain from occlusion, wreck of the intellectual faculties, monoplegia, paraplegia, etc., or of general paresis from induration.

The Heart. The heart suffers under this degenerative process. In the first place the changes of arterio-sclerosis throw extra work upon the heart, which must then undergo compensatory hypertrophy. Most of the cases of so-called idiopathic hypertrophy, that is hypertrophy independent of valve disease, are due to this cause. In many cases the lesion is local in the kidney, so that hypertrophy of the heart is a valuable symptom indicative of Bright's disease. In the second place it must be remembered that the arteries of the heart itself suffer the same degeneration. Where the arterio-sclerotic process is slow, breaches are substituted with connective tissue so that the heart muscle on section shows scars. Where the process is rapid, as under thrombosis or occlusion, molecular necrosis sets in with softening of the heart, myelomalacia. Then it must be remembered that coarse atheromatous change not infrequently affects the coronary arteries and interferes with the blood supply to the heart. In this condition the heart is able to do its work when the individual is quiet, but under any effort which calls for extra work the heart fails. The patient in climbing a hill or breasting a wind must then stop for rest. The same thing is seen in other vessels, and especially in the great vessels of the extremities. Charcot, Dutil and Potain speak of the intermittent lameness of the horse under occlusion of the femoral artery. When the animal rests it recovers its tone, but if it be driven it becomes lame and finally falls in a state of exhaustion. The extremity is now found paralyzed, cold, senseless and dry, the rest of the body being covered with profuse sweat. Potain has invented a term for this limited blood supply

to the organs. He calls it "meioprægie." Pain constitutes an additional symptom in certain cases, the excruciating pain of angina pectoris. Or the heart may simply show arrhythmia. Tachycardia is not infrequent, or bradycardia. Flint reported a case in which the heart was reduced to 18, to 16 beats per minute, Hamer another case of reduction to eight beats per minute, and Huchard a case in which the pulsations were reduced to forty, to twenty, to five, and in the last hours before death to two in the minute.

Under these degenerative processes the heart works against obstacles or works imperfectly for many years. It works with intermissions and irregularities, which at first may be noticed only after effort, as in running for trains, after heavy meals, the ingestion of wine, mental anxieties, etc. Later it becomes more constant.

The process of arterio-sclerosis interferes with the fine adjustment to the wants of the body, which are nowhere so delicate as in the case of the heart. The heart trips and stumbles; at last it stops. Death from "heart failure" is almost an opprobrium in medicine. Nevertheless the statement is true. The stop is sudden, but the failure is a long and insidious process extending over many years.

The Lungs. The lungs show early evidence of affection in dyspnoea. This dyspnoea is really, however, of cardiac origin. It sets in first often in the night without provoking cause, or is excited or intensified under effort. The intense suffering of cardiac asthma is usually due to arterio-sclerosis, and the bad prognosis becomes evident with this knowledge of its nature.

The Kidneys. The kidneys show early evidence of arterio-sclerosis. In association with or as a result of the hypertrophy of the heart, there is usually at first polyuria. The amount is increased to sixty or eighty ounces; the specific gravity is light, 1010 or 1012, sometimes as low as 1005. The urine is passed more frequently and in greater

quantity at night. This condition may persist in association with other symptoms of renal cirrhosis, or parenchymatous nephritis may show itself in oliguria, albuminuria, etc. In the discovery of albuminuria it is wise to use a delicate test, Heller's test, or especially Spiegler's. It must be remembered that sometimes the albuminuria in this process is cyclic or periodic. The point is that the working capacity of the kidney is lessened. Finally the kidneys become inadequate, sometimes suddenly under the strain of intercurrent disease. It is for this reason that pneumonia, which must eliminate its toxins through the kidneys, is so fatal in old people. A light form of uræmia, marked by mental hebetude, headache, drowsiness, is very common in old people.

The Mucosa. Rosenbach calls attention to symptoms on the part of the nose and ear in general arterio-sclerosis. Thus these patients show usually marked dilatation of the arteries and capillaries in certain parts of the skin of the face, especially about the ears. The mucous membranes are congested and red and the auditory passages show a more decided redness. These patients suffer frequently from nose bleed. They are especially predisposed to coryza, bronchial and pharyngeal catarrh; they suffer also with sweating of the feet. Many of the patients complain of obscuration of the field of vision and ringing in the ears or continuous roaring sounds or pulsating sounds in the head. They suffer more frequently with swelling of the nasal mucosa, which usually terminates with the effusion of a watery secretion.

Physical Signs. We now come to a consideration of the physical signs which make themselves manifest in the pulse to palpation. The process of calcification has been already remarked. The most important evidence is furnished in the increase of tension. This increase of tension occurs in the earliest stages of arterio-sclerosis. It was Mahomed who first called attention to the presclerotic stage of this condition, and v.

Basch has emphasized it with his instruments of precision. The increase of tension may be appreciated at the pulse. The pulse is harder to obliterate by pressure. Finer changes may be estimated by the sphygmograph. The instrument of Marey is the best, but the sphygmograph requires a special education. The same remarks apply to the sphygmometer, that of v. Basch being the best. The sphygmometer registers as a normal pressure 150 mm. In the study of 101 cases, Edgren found that arterio-sclerosis raises the pressure to 190-200 mm.

The use of this instrument requires, however, also, special training. This qualification applies, also, to the arteriometer of Oliver.

But, besides the condition of the pulse, there is another valuable sign which may be appreciated by the ordinary practitioner. This is the accentuation of the aortic valve sound. As the blood is propelled into the already distended aorta, the rebound closes the aortic valve with a distinct click. Sometimes the sound has a metallic timbre. The French speak of it as "clangoreux." This accentuation may be readily appreciated at the second intercostal space on the right of the sternum, and the comparison between the sounds of closure of the aortic and pulmonary valves, heard upon the right and left of the sternum respectively, brings it out.

Diagnosis. The diagnosis becomes thus evident from the incapacities of the individual organ affected.

When Harvey refused to accept the demonstrations of Aselius of the lacteals, on the ground that advanced age would not permit the acceptance of new views, he was himself showing the first signs of arterio-sclerosis.

Characteristic points in the diagnosis of general arterio-sclerosis are found in the diffuse symptoms of disease of the brain, that is in forgetfulness, lack of words in speaking, weakness or pains in the arm, paræsthesiæ, the leaden gait, which is sometimes atactic (Rosenbach).

Prognosis. The prognosis depends upon the site and extent of the process. As a general rule atheroma in the large vessels is not incompatible with life and even with long life. But it is incompatible with quick, delicate or sustained effort. The general arterio-sclerosis is a diffuse process and is progressive. But while it may not be cured it may be brought to a halt and long periods of quiescence may be established. On the other hand, a single and slight localization may prove fatal. Thus there is a great difference between atheroma of the radial artery and miliary aneurism in the brain, or between atheroma of the temporal artery and of the coronary. Atheroma of the thyroid artery may lead to changes in nutrition, for instance to obesity. Arterio-sclerosis of the ovary may cause osteomalacia and of the pancreas may cause diabetes. An extensive patch in the aorta may give rise to no trouble, but a diffuse process in the kidney is a form of Bright's disease. A little patch at the orifice of the coronary artery may threaten or take life by angina pectoris.

Prophylaxis and Treatment. Of treatment I will presume here only to make intimations. The prophylaxis depends upon the ability to adjust the work to the changes which have already taken place, and to live a life of perfect hygiene. The man of fifty must learn that he cannot do the work of a man of thirty, that is, as Emerson says, he must "take in sail." Syphilis need not be contracted. Abstention from alcohol is a sine quâ non. In avoiding worry the patient may learn to content himself with less wants, remembering the statement of Socrates that he who has the least wants is nearest to the gods. In all things temperance. This remark applies especially to diet. Arterio-sclerotic changes are less frequent in the herbivora. The individual should, therefore, take less animal food, and indeed less food of all kinds. He should especially distrust the heavy evening meal. The best food is milk. In the second childhood

there is a natural tendency to return to the food of the first childhood. The Russian physicians, Karell and Hogstedt, have especially made us familiar with the fact that an exclusive milk diet, from two to four quarts per day, will put a stop to the changes of arterio-sclerosis in the kidney. The strain of hard work must be lessened. On the other hand, the individual should not lead a too sedentary life for fear of increasing abdominal plethora. Coffee produces abdominal plethora. The quantity of it should be lessened at least. The weight of the whole body must be kept down. It is a pity that the rules which apply to the regulation of the weight in the police may not have a wider range. The panniculus adiposus is associated with a weak heart and with a self-indulgence which begets arterio-sclerosis.

It would appear that hemorrhage from the nose, as well as moderate hemorrhoidal hemorrhage, delays the development or rapid progress of arterio-sclerosis. These conditions may, therefore, be regarded as safety-valves in the relief of the high pressure. The unpleasant symptoms, headache, vertigo, sometimes disappear after a hemorrhage and return when the hemorrhage ceases.

Above all things oxygen. No tissue can live without oxygen. Together with oxygen, sunshine. The indoor climate favors arterio-sclerosis. The contrast between the health of the farmer or mountaineer and the city clerk is obvious enough.

Of drugs we make use of the vaso-dilators, of the nitrites in acute conditions, as of amyl nitrite in angina pectoris, or of nitroglycerin and the sodium nitrite for effects of longer duration. For still more protracted results appeal is made to the iodides, which have virtue not only in syphilis, but in all conditions of atheroma. As intimated already, Lancereaux uses the animal extracts, especially iodothyriin, in an empirical way.

The heart is helped best by the use of baths, hot baths, salt baths and carbonic

acid baths, which all sooner or later dilate the surface vessels. The heart muscle is developed like any other muscle in the body, by exercise. Stokes long ago showed how dyspnoea was overcome in this way so that a man in walking and climbing hills "got his second wind." The exercise treatment by Oertel, and of Schott at Nauheim is an amplification of these views.

In the case of the brain it is necessary to keep the faculties fresh by exercise. While it must be admitted that a certain amount of rest, that which is sometimes close to indolence, favors longevity, it must not be forgotten that we keep our faculties fresh by exercise. What Grant said of horses is true of men, that is that "more rust out than wear out." Quincy asked John Adams how he managed to keep his faculties entire for ninety years. "By constantly employing them," he replied. The lectures of Blumenbach, the celebrated physician, were crowded with students from all parts of Europe after he was eighty-three, and Holland, the famous physician of London, said at eighty that he had never been incapacitated by his own illness from attending to the illness of others in a practice of fifty years.

PRESIDENTIAL ADDRESS

BY M. R. EVANS, M. D., OF HUNTINGDON.

[Address delivered by the retiring president of the Huntingdon County Medical Society, January 10, 1899.]

As my term as President of this society has been short so will my closing address also be brief. It will consist principally of a review of the meetings during my term, with a few friendly criticisms, statements and suggestions. The meeting in April was conducted entirely by home talent, and to me was both interesting and instructive. The paper read by Dr. Sarah Whiteside, on the management of labor, showed careful preparation, thought, and research; and was in accord with the majority of the teachers and writers of the present time; but her

treatment of the placenta, and her opinion concerning the use of the binder met with considerable criticism, and what was noteworthy in the animated discussion that followed, especially in regard to the binder, was the fact that the younger members of the society upheld the position taken by the writer, while the older members without exception still clung tenaciously to the time-honored custom of using the bandage, which, to them, through a quarter of a century's practice seemed to have done much good. A very valuable lesson may be learned from the foregoing fact, both by the older and by the younger members, if by unbiased and unprejudiced reasoning and experience they are enabled to find the truth of the matter. Sometimes when older physicians cling to a custom, or treatment, that has been discarded by the majority of physicians, they are called "old fogies" and "behind the times," and if they still cling to it after the newer treatment has been proven beyond the shadow of a doubt to be the better, then they deserve the epithet; but when they cling to it from a long experience which has proven its usefulness, and from a test with the newer in which it has proven to be the better in their hands, then they have a right to stick to it, and deserve the greatest of credit for so doing, for they are obeying the Bible command to "Hold fast to that which is good." That they are not always wrong is frequently proven by the fact that after certain treatment has been discarded for decades physicians return to the old treatment with better success than with the prevailing treatment at the time. But for all that the older physician must live in the present as well as the past and must not discard the new simply because it is new; but must reason for himself whether the new is logical, or scientific, and then by test and experience prove whether it be better than the old and then having satisfied himself of the fact he should still hold fast to—not only that which is good, but to that which is best.

The younger members may also learn a valuable lesson if they will thoughtfully consider the experience of the older members as well as study the teachings and writings of the present time. It was said a long time ago, by a very wise man, "That of the making of many books there is no end." The same I think will hold good at the present time, and it seems to me that of the making of medical books, periodicals, and journals there seems to be no end. It appears to me as though every young man who takes a course in some popular college, then graduates in medicine and practices three or four years thinks his knowledge is too precious to be kept in a napkin and he must give his wonderful thoughts and discoveries to the profession through the medical journals in order that the good people of this glorious country of ours may not make rich the undertakers. Thus we have much written that is of little value, and the younger members, as well as the older, must exercise wise and vigilant discrimination in accepting and advocating the fashionable treatment of our would-be teachers, for really there is just as much fashion in the treatment of disease as there is in dress, and frequently it is just as unreasonable and injurious. The older members of this society remember that a number of years ago, a certain French-American professor of Boston, discovered that the testicle of the lamb was a specific for the impotence of old age; he therefore eliminated the testicular fluid, or elixir of life, and injected it into the tissue of the aged and decrepit to restore them to vigor again. It caused such a furore in the medical world for a year or two that the American ram had to conceal himself in the forests during the day time in order to keep the progressive doctors from depriving the ewes of their natural and usual "spring time lambing." This fashionable treatment soon died out but was soon followed by the Bergeon gas-injected-into-the-bowel treatment for consumption, which, at the time was

thought would revolutionize the treatment of all lung diseases. This, however, had but a short life; but only a few years elapsed when we hear of another method of medication which is to work wonders. The fact, however, becoming known to the profession that Dr. Hammond—surgeon-general of the army—and one of the strongest advocates of the serum treatment of disease—was financially interested in the manufacture and sale of the drug, this treatment was almost “killed in the bornin.” The only fad before the profession at the present time—and it may not be a fad—is the anti-toxin treatment of disease, and especially of diphtheria. I have read a great deal both for and against this treatment, but so far I hold the subject—subjudice. The tests that have been made in this community so far I believe have been unfavorable, but then I understand they were made under very unfavorable circumstances and the evidence should not be final. The reason I mention these cases is to show our younger brethren, who have not sailed through the different stages of fashionable treatment of disease, that it is not always wise to accept the teachings *in to-to* of those who are leaders in the profession, but to study carefully every case and adapt treatment to the person as well as to the disease.

The next meeting was held at Alexandria in July, and although some distance from the line of railroad travel, was reasonably well attended and was also an interesting and profitable meeting. The talks given by Drs. C. A. Harnish and Charles Campbell on bacteria and the common bacilli, and the microscopical specimens exhibited to the members of the society, were both instructive and interesting, and the progressive spirit they manifest in thus keeping in line with modern research is not only commendable but highly praiseworthy. We know that when millions of microbes are loafing around in the folds of the cæcum and standing in the door of the appendix, watching a favorable opportunity to attack the enemy,

and millions more are sitting on the pump-handle waiting for the liquid boat to carry them down the alimentary canal to reinforce the former, that there is great danger to our patients, and unless the microscopists study well their habits and modes of attack, and also the best means of defense, that sooner or later they will capture our patients and carry them to that “bourne from which no traveler returns.” The microbe theory of disease is both logical and reasonable, and although we have not realized as much value therapeutically from its study as we could wish, yet the field is a broad one, and as yet the surface has been but superficially skimmed, and when better studied and better known we will expect better results in treatment. I would therefore counsel my young brethren to continue in the good work which they have begun.

The October meeting was held in the grand jury room of the court house. The day was cold, wet, windy and inclement, and the attendance small, but for all that the paper read by Dr. R. Myers on Dyspepsia created quite an animated discussion, and although the gist of the paper was outside the general line of most writers, yet it met with almost unanimous and favorable criticism. The talk of Dr. Brumbaugh on eczema was somewhat in the same line and also met with popular favor, as did also the exposition of the cause and treatment of constipation, given by Dr. H. C. Froutz in the absence of Dr. Heaton.

Before closing I wish to make a statement and a suggestion. In my opinion we are sending too many of our patients to private and public city hospitals. I have had considerable experience with city physicians. I have seen them make errors in diagnosis; have seen them make mistakes, and from my observation and experience with them, I have no reason to believe that they are any less likely to make errors than the members of our own county society. Why then should we send our patients and profits to them? Simply because we have

not the courage to do the work we ought to do. If we do not all wish to perform such operations, why can we not have a doctor or two in each county make a specialty of abdominal and pelvic operations, and have them operate on our patients at their homes, and the attending physicians then continue the after-treatment, and each share the profits? As long as we send our patients to the cities we are lowering ourselves in the estimation of our own patients, and elevating the city physician to a position which he ought not to have, and would not have but for our cowardice. Think of these things gentlemen, and if they meet with your approval then act, either as a society or as individuals.

And now allow me to thank the members of this society for the courtesy and consideration they have shown me during my term of office, and I express the hope that my successor may meet with the same kindness and co-operation.

TREATMENT OF GRIPPE PNEUMONIA WITH SALICYLATE OF SODA.

R. Siegel (*Wien. Med. Wochenschrift*, No. 19, 1898) strongly advocates salicylate of soda as a curative agent in pneumonia. He uses it in doses of 8 grms. in 24 hours. If there is much pleuritic pain small doses of morphia are added. In addition, ipecac is used as an expectorant. If the temperature remains above 103 degrees he uses applications of ice to the head. He reports 72 cases, every one of which terminated favorably, in spite of the fact that many of them had grave complications. The temperature fell gradually, reaching normal in from 3 to 4½ days after beginning treatment. The pneumonia sputum was modified as the temperature fell, the diplococcus disappearing with the rales. If the treatment was suspended too soon, the patient invariably had a chill, with a return of all the pneumonic symptoms—a veritable relapse. To avoid this it is necessary to continue the salicylate of soda 24 to 48 hours after the temperature has reached normal.—(*Internat. Med. Magazine*.)

Original Articles.

TRUE CONSERVATISM IN GYNECOLOGY.

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[Read before the Philadelphia County Medical Society, January 25, 1899.]

Conservatism as applied to practice in gynecology may have two significations. It is usually employed to indicate a method of practice which is the opposite of radical. Many writers employ the term conservative treatment as being synonymous with expectant treatment, and this usage has linked the term conservatism with non-operative or medicinal therapeutic measures. On the other hand, conservatism may be employed in its etymological sense, when all methods of treatment which promote the best interests of the patient must be considered conservative. In this sense conservative treatment may embrace the most radical measures, the essential point being that they promote the best interests of the patient. We shall use the term conservative in this more literal and, I believe, more correct sense. In this sense all measures of treatment which are not conservative are essentially bad, for the primary purpose of therapeutics is to promote the welfare of the sick. The term conservative is also applied to surgical operations which have for their purpose the preservation of organs or tissues, and in this sense it is used as opposed to executive surgical operations.

Having selected a general principle in gynecology for the subject of our paper, we will be able to pass in review a number of the more important gynecological diseases, and to consider what experience together with the general advances in surgery have taught is the best or most conservative treatment in each.

The first subject which we will discuss is the treatment of lacerations of the pelvic soft parts. These lacerations with rare exceptions are the result of labor or miscarriage. The conservative treatment of these lesions consists in their early repair by suture. It is now generally recognized that the proper treatment of lacerations of the pelvic floor or perineum is their immediate repair by suture. The basis of this practice is that if the parts are brought together at once after the injury, the torn structures may be brought into immediate apposition, and the anatomical relations of the parts thereby may be restored. A further reason for the prompt closure of wounds in the pelvic floor is that a point of absorption of infectious material is thereby closed. The results of the immediate repair of wounds of the pelvic floor, when the suturing is properly done, are most excellent. These wounds are preferably closed promptly after labor, but when the lesions are extensive and skilled assistance is not at hand, their closure may well be postponed until such assistance can be summoned, even for twelve or twenty-four hours. When the suturing is postponed more than two or three hours, it is best to freshen the surface of the wound by scraping it with the edge of a knife. In all cases ragged or bruised parts should be trimmed off with scissors before introducing the sutures. The introduction of the sutures should begin at the upper angle, or angles, of the laceration. Each suture should be introduced and tied, and special care should be taken to bring together the torn structures in their anatomical relations. When the suturing is skilfully done under the modern antiseptic technique, in at least ninety per cent. of the cases excellent union will be obtained.

When adequate facilities are at hand for aseptic work, the same principles apply to lacerations of the vagina and of the cervix. In many maternity hospitals the immediate repair of lacerations of the cervix and

vagina are carried out as a routine practice. To do this work successfully requires better facilities and more skill than to deal with lacerations of the pelvic floor, and therefore in the hands of those not possessing these requirements, it is probably best to defer the closure of wounds of the upper vagina and of the cervix to the post-puerperal period. The objection to delay in lesions of the vagina and cervix is not so great as is the case in those of the pelvic floor, because if asepsis is maintained, except in extensive lacerations of the cervix, the parts will unite in a large percentage of cases without the use of sutures. It is most important in suturing these lesions to have adequate assistance, and to operate under complete anesthesia, otherwise the suturing will be poorly done, and will result in failure.

The advantages of the immediate repair of injuries of the soft parts after labor are that infection of the wound is prevented, that a more perfect anatomical result is secured than can be at a later period, and finally that the patient is saved the necessity of a subsequent operation—recovering from her labor and from the operation at the same time.

When lacerations of the cervix and pelvic floor are seen after the puerperal period, conservative treatment still requires their early repair. Lacerations sufficiently extensive to impair the supporting function of the pelvic floor are a continuous source of discomfort. If not repaired promptly, the parts become overstretched, and in time various secondary results develop. Depending upon the degree of the injury to the structures, the bowel bulges forward, giving rise to a rectocele, or the pelvic contents become prolapsed, giving rise to cystocele and to procidentia. Were lacerations of the pelvic floor promptly repaired, these conditions, almost invariably the remote results of injuries of the pelvic floor, would cease to exist. In neglected cases the parts become more and more overstretched, and

atrophic changes in the anatomical structures of the pelvic floor take place, so that it becomes impossible to restore the parts to their original anatomical condition. While it is still feasible to obtain very satisfactory results by operation, these results are only relatively and not absolutely good. This statement applies more especially to extreme cases of complete prolapse of the pelvic organs, with inversion of the vagina, and with detachment from its walls from their lateral and posterior connections. It requires no argument to demonstrate that the conservation of the interests of the patient requires that the development of these secondary lesions, and also of years of discomfort thereby entailed, should be prevented by the prompt cure of the original lesion.

The scope of this paper will not permit a full discussion of the treatment of lacerations of the cervix. It must suffice to say that when lacerations are slight in extent and produce no symptoms, in young women of child-bearing age they are best left alone. But even in women of this age, when the lacerations are extensive, and when the uterus is large from subinvolution or metritis associated with menorrhagia or metrorrhagia, the best treatment is the repair of the lacerations. In women approaching the menopause the indication for operation is still greater, especially if the cervix is infiltrated and the laceration is complicated by extensive cystic degeneration of the Nabothian glands. Such cervixes afford a favorable soil for the development of cancer.

The conservative treatment of inflammation of the pelvic organs may be viewed from several standpoints. Pelvic inflammation is progressive in its course, and as a rule exists as a vaginitis or an endometritis before the most important pelvic organs—the Fallopian tubes and ovaries—become involved in the process. The truest conservatism requires that the disease be recognized in its early stage and cured,

before the uterine appendages become involved. This brings up two questions, the treatment of gonorrhea in women and the treatment of puerperal infection. It will only be possible to touch upon these large questions. It seems to me that the profession has not reached a truly conservative position in dealing in practice with either of these problems, but on the contrary is guilty of a large measure of indifference or even carelessness in their management. The old view, that gonorrhea is a trifling disease, to be looked upon in men as a "cold in the urethra," and in women as a cause of local discomfort, but chiefly important as a source of infection to men, still influences the management of this disease. Gonorrhea will continue to exist so long as illicit sexual relations are maintained, but the profession can do much to limit its spread among the more intelligent by properly instructing them concerning its actual gravity, and also concerning the limits of its communicability. Many women have been infected with gonorrhea by men who have been pronounced cured and believed themselves free from the disease. In my opinion, one of the most important duties of the profession at this time is to study carefully the methods which have been developed by specialists in venereal diseases to determine the question as to when a gonorrhea may be considered cured, and to apply this rigidly in their practice. Perhaps this is the most important in the case of married men and those contemplating matrimony, but is of great importance for a large class of men who, while they do not refrain from illicit sexual relations, would not deliberately communicate gonorrhea.

Careful and long continued treatment will effect a cure of gonorrheal infection below the uterus, and even in many cases of gonorrheal endometritis, and will prevent the spread of the disease to the Fallopian tubes.

The most effective and conservative treat-

ment of puerperal infection consists in its prevention. Antiseptic midwifery has been so perfected and so simplified that there is little excuse at this time for the occurrence of puerperal infection, and undoubtedly if the teachings of antiseptic midwifery were carefully observed in practice, puerperal infection would become a disease of the greatest rarity. When puerperal infection exists, it should be treated promptly in order that the infection be limited to the utero-vaginal canal, and not extend to the broad ligaments or to the uterine appendages.

The conservative treatment of inflammation of the uterine appendages and pelvic peritoneum is a large question. The highest object to be sought for is to cure the patient of her disease while retaining her sexual organs with their functions of menstruation and procreation. In many cases this is impossible, and either the organs themselves, or at least the function of procreation, must be sacrificed in order to restore the woman to health. These attempts apply especially to the class of cases in which inflammation has resulted in pus formation. Cases of recent pus formation of puerperal origin constitute the class for which most can be done in the way of conservation. By vaginal drainage in most of them the patient can be restored to health without the sacrifice of her sexual organs, retaining the function of menstruation, and in not a few cases that of procreation. Less satisfactory results have been secured by the vaginal drainage of pus accumulations of gonorrheal origin. In my opinion this class of cases is not a fruitful field for conservative work.

In the class of cases in which the accumulation of pus in the tube or in the ovary is small, encouraging results have been obtained by excision of parts of the ovary or of the tube, with plastic operations upon the remaining portions of the ovary and tube, designed to keep open the canal for the passage of the ovule to the uterus.

In the class of cases in which salpingitis has caused peritonitis with adhesions of the pelvic organs, with minor structural changes in the tubes themselves, as a rule patients can be restored to health by separating the adhesions without the removal of any organs. In many of these cases, in which the uterus has been drawn out of position by the contraction of the adhesions, it is necessary to supplement the operation by performing hysterorrhaphy, or by shortening the round ligaments within the peritoneum, or in some cases by suturing the ovaries to the top of the broad ligaments or to the round ligaments, in order to raise them up from a faulty position.

The conservative treatment of fibroid tumors of the uterus has not been fully developed. In the currently accepted meaning of the term, the conservative treatment of fibroid tumors has consisted in leaving them alone, or at most in administering such drugs as ergot, erigeron and muriate of ammonia, for their supposed curative effects. The experience of the profession long ago proved that drugs have but little effect, indeed almost none at all, upon the development of fibroid tumors. The reputation of the various drugs for the cure of these growths rests principally upon two facts. It is well known that a small percentage of fibroid tumors grow to a certain size, and then either remain stationary or become smaller. This is especially true of subperitoneal, multiple, fibroid tumors. Any drug administered in such cases would apparently have the effect of arresting the development of the tumors. In submucous fibroids the natural method of cure is for the uterus to throw off the tumor per vaginam. At times in such cases this process has been hastened by the use of ergot, and its reputation in the treatment of fibroid tumors rests upon this fact. As a part of the process of the extrusion of a fibroid tumor from the cavity of the uterus, almost invariably, necrosis of the tumor takes place, brought about by the arrest

of its circulation. Unless the process is rapidly completed, or the surgeon interferes to remove the sloughing mass, the dangers of this method of curing fibroid tumors are much greater than those of any of the recognized methods of operation.

The most conservative method of treatment of fibroid tumors is to remove the tumors and to leave the uterus and its appendages intact, so that the patient is cured of her disease while retaining the function of menstruation and the possibilities of procreation. This operation is technically known as myomectomy, and may be performed either by abdominal section or per vaginam. Submucous fibroids and small fibroids, especially on the anterior wall or fundus, can be removed advantageously per vaginam. Submucous fibroids may be removed by splitting the cervix bilaterally, so as to afford ready access to the tumor. This is seized with volsellum forceps, and enucleated by dissecting it from the capsule with the fingers or other blunt dissector. If necessary, the tumor may be removed piecemeal. Another excellent method of approaching the tumor is to make a transverse incision through the vaginal wall in front of the cervix, detaching the bladder from the anterior wall of the uterus, and then incising the anterior wall of the cervix to as high a point as is necessary to give access to the tumor. After the removal of the tumor, the incisions are closed with catgut sutures. Small subperitoneal fibroid tumors may be reached by performing anterior colpotomy and turning the uterus forward into the vagina. This gives ready access to the growth. Fibroid tumors of considerable size, intramural fibroid tumors and multiple fibroid tumors, are best attacked by the abdominal route. The tumors are removed by incising their capsules and peeling them from their bed. With the rigid observance of asepsis and careful attention to hemostasis, the results of myomectomy are most excellent, being approximately as good in the hands of the

expert as in hysterectomy. The operation, however, is one which requires more skill than hysterectomy, and therefore is liable to give bad results in the hands of those of less experience. At the present time at least twenty per cent. of fibroid tumors may be removed by myomectomy. This percentage will be largely increased when these tumors are removed at an early period, before they have attained large size.

In the majority of cases at the present time true conservatism—that is, the welfare of the patient—requires the performance of hysterectomy. It has been clearly shown that the mortality from fibroid tumors, due either to the results produced by the growths themselves, to degenerative changes in the tumors, or to complicating disease of the uterine appendages, is far greater than the mortality of hysterectomy. In such cases hysterectomy is conservative treatment, because it lowers the mortality and cuts short the long years of suffering which would otherwise be entailed upon this class of patients. It has been my experience that patients having undergone operation for fibroid tumors have made a more satisfactory convalescence than any class of patients requiring abdominal section.

It has been proposed in performing hysterectomy upon young women, that instead of removing the ovaries and tubes along with the uterus, that these be left *in situ*, provided of course that they are healthy. It is claimed that this practice obviates the disagreeable symptoms at times accompanying the induced menopause. This particular conservation of organs is of less importance than would be the case were it possible to preserve also the uterus, as in spite of it menstruation is interrupted and sterility is absolute. A much truer conservatism is to resort to operation at an early period, when it is still possible to save the uterus as well as its appendages by performing myomectomy.

It may be well asked whether conserva-

tism does not require that in certain cases of fibroid tumor no treatment at all be instituted. In a small class of cases this is probably good practice. It is my own habit to advise against operation in the case of small fibroids which are not growing, and which do not produce discomfort, especially when such tumors are first seen at or about the period of menopause. Nevertheless I have no doubt that in a certain percentage of these cases the tumors will later take on growth and require operation.

The rules of practice with regard to ovarian tumors have long been crystalized, and it is universally recognized that true conservatism requires the removal of these growths so soon as they are recognized. The wisdom of these precepts is beyond question, although it is well known that some ovarian tumors produce few or no symptoms, and grow little or not at all for many years. It is also true that the ovarian tumors developing from the Graafian follicle or from the corpus luteum never attain large size. At the same time it is equally true that even the most innocent of these tumors may cause death through torsion of its pedicle or through inflammatory complications. It has been my fortune to remove a large number of tumors having twisted pedicles. In many of these cases the patients have been extremely ill from peritonitis due to strangulation of the tumors. A considerable percentage of the cases of ovarian tumors which I have removed have undergone inflammatory changes or suppuration. Many of the most serious operations belong to this class, which is sufficient evidence that in spite of the unanimity of opinion concerning the wisdom of removing ovarian tumors these cases are not submitted to operation at a sufficiently early period. Ovarian tumors should be removed before the occurrence of torsion of the pedicles, and before inflammation or suppuration have taken place. Were it possible to operate upon these cases at an early stage, the mortality of ovario-

tomy would be reduced almost to the vanishing point, as aside from cases of cancer the mortality in ovariectomy is restricted to cases having serious complications.

We will next consider a number of subjects which are usually classed as belonging to minor gynecology, but because these subjects must be dealt with very frequently in practice, they are certainly of major importance. Curettage of the uterus is probably more frequently performed than any operation in gynecology, which fact adds to the importance of using true conservatism in this operation. When curettage is performed after strict indications and under full antiseptic precautions, it is one of the most simple and one of the least dangerous operations in surgery. It yields also most gratifying results in cases best suited for its employment. These are cases of endometritis, cases of glandular hypertrophy of the endometrium or the formation of polypoid growths, and cases of puerperal endometritis due to the decomposition of the contents of the uterus with putrid absorption or sapremia. True conservatism requires that curettage should not be employed except for definite indications, and that when performed it should be done under strict antiseptic regulations. I have frequently been struck with the lack of true conservatism on the part of some members of the profession in the performance of this operation. There are some who pursue an expectant plan of treatment with reference to the so-called major cases in gynecology, which urgently require early operation, who will resort to curettage of the uterus after an insufficient diagnosis and without any of the precautions with which every operation should be surrounded. They will curette the uterus without anesthesia, with imperfect or no antisepsis, and perhaps do it in the office and allow the patients to return to their homes thereafter. Not a few instances of this kind have come under my individual notice. The first death which occurred in my practice as a gynecologist

was in the case of a woman who had been curetted, with the result that an immense pelvic abscess developed. The patient was moribund when operated upon, and died of shock. In this case either imperfect asepsis was employed, or what is more likely a co-existing septic disease of the uterine appendages was overlooked, and the manipulations incident to the performance of curettage caused an infection of the peritoneum, with the ultimately fatal result recorded. I will refrain from citing other cases, but the lesson which they teach is most plain: first, that curettage should not be performed except under rigid asepsis; and second, that a positive diagnosis should be made excluding complicating diseases of the uterine appendages, especially collections of pus. The practical deduction from this is that no one should feel competent to advise and perform curettage of the uterus unless competent to diagnose the existence or absence of disease of the uterine appendages. I would strongly recommend that in doing this operation general anesthesia should be employed, because without this it is difficult to disinfect the vagina, and also it is difficult to perform the operation efficiently. An additional advantage is that under anesthesia the provisional diagnosis may be revised or confirmed.

It seems to me a lack of true conservatism exists also with reference to the use of the curette to empty the uterus in incomplete abortion. It is well recognized that the curette is a very inefficient instrument for this purpose, and that no instrument is so efficient as the fingers to separate and remove the retained secundines in incomplete abortion. Every one of large experience in the use of the curette knows that it is impossible to determine with this instrument whether or not the uterus is thoroughly empty, and that the only certain method of determining this question is by introducing the finger within the uterus and palpating its walls. In cases of abortion

after the third month, under full anesthesia, with the half hand introduced into the vagina, it is always feasible in cases of incomplete abortion to introduce one or more fingers into the uterus; and by using the intrauterine finger in conjunction with the practitioner's remaining hand, grasping the uterus through the hypogastrium, it is comparatively simple to separate and remove adherent placenta. Cases of abortion occurring before the third month seldom require artificial emptying of the uterus, because as a rule at this early period the ovum is thrown off by the uterus itself. Should not this be the case, the curette and curette forceps must be used after dilatation of the cervix to empty the uterus in this small class of cases.

In cases of puerperal infection the proper field of usefulness of the curette has not been absolutely determined. There is no doubt that at this time there is a tendency to use it less than was the case only a few years ago. It is of most value in cases of putrefaction of retained clots or secundines, with putrid absorption or sapremia. In this class of cases after either labor or abortion the uterus should be emptied with the finger, and then the thickened decidua should be removed with the curette. If this be done and be followed by thorough douching of the utero-vaginal canal with a mild germicidal solution, recovery will follow in almost every case. When performed late in cases of mixed infection, when there is true septicemia due to infection by pathogenic organisms in addition to the putrid absorption, this treatment may be ineffectual.

The value of curettage in cases of puerperal infection by pathogenic organisms, streptococci and staphylococci, is not so well established. A few years ago curettage was earnestly recommended in this class of cases. If used, it should be used early when the infection is still superficial; if used late, it is claimed that curettage does more harm than good. It is clearly ineffi-

cient because the infection has spread beyond the endometrium and cannot be reached by the curette, and it is claimed that it does harm by breaking down the barrier of leucocytes which nature throws out under the infected endometrium to protect the deeper structures from the invading organisms.

We have one more word to say concerning conservatism in the use of the curette. Perforation of the uterus with the curette is a not infrequent accident, and has probably happened in the hands of every one of large experience; even with the exercise of very considerable care this will occur as a rare accident. Perforation is most apt to occur when the uterus is soft, whether from recent pregnancy or from long continued congestion. It will occur also at times in small uteri, which are very frangible. These facts teach two lessons: first, the great importance of caution and gentleness in the use of the curette; second, the absolute necessity of asepsis in performing curettage. It is an unfortunate accident if through lack of asepsis the endometrium be infected, but a more serious one if an infected curette is plunged through the uterine wall into the peritoneal cavity. When curettage is done under an aseptic technique, if the uterus be perforated, as a rule no harm results, the curettage may be completed, the endometrium dried out, and a gauze drain introduced. In rare instances hemorrhage into the peritoneal cavity may require abdominal section and closure of the rent.

In puerperal cases there have been not a few instances in which the uterus has been perforated and the intestines drawn down into the uterus with the curette. Dr. Mann of Buffalo, reported three such cases which had come under his care. It is unnecessary to say that most of the cases in which this accident has happened have never been published. One such case has come under my own observation, in which the uterus was perforated and three feet of the small

intestine was pulled off from its mesentery and drawn down into the vagina before the accident was recognized. Fortunately the practitioner had employed asepsis, so that the peritoneal cavity was not infected. I was called to resect the bowel, and the patient made a good recovery.

The uterine sound has been considered one of the most useful aids to diagnosis in diseases of the uterus. Conservatism requires that the older estimate of the value of the sound should be reconsidered, because discoveries in gynecology have afforded us other and better means of diagnosis, and experience has taught that the use of the sound has certain inherent disadvantages and dangers. The sound is no longer necessary either to determine the position of the uterus or its size. Bi-manual palpation will determine both of these points as well or better than the sound, and at the same time will afford much information which cannot be obtained by the use of the sound. One of the disadvantages of the use of the sound is that in a certain percentage of cases its use has given rise to infection of the endometrium, and even to salpingitis and peritonitis. It is probable that cases of peritonitis are more often due to the fact that the case in which the manipulation was employed was complicated by co-existing pyosalpinx, and that through these manipulations infection of the peritoneum took place. Nevertheless it is true that this accident may happen whenever an infected sound is introduced into the endometrium. The sound was formerly and still is used as a repositor in cases of retro-displacements of the uterus to restore the organ to its proper position of ante flexion. If the sound is used as a repositor without a careful preliminary diagnosis, it is quite possible to set up a peritonitis in cases of so called retroflexion with adhesions; that is, cases in which the malposition of the uterus is one of the secondary results of diseased appendages. The sound should never be used as a repository without a careful dif-

ferentiation in diagnosis to exclude diseases of the appendages. With this precaution it is at times useful, especially in a small class of cases in which it is difficult to reposit the uterus by the bi-manual method because of the great flexibility of the uterus. With this exception, personally, I have found no use for the sound as a repositor. The principal use which I find for it is as a probe in operations on the cervix. Occasionally the sound gives useful information concerning the existence of an intrauterine growth, but the possibilities of error are so great that it is a question whether it is of any service to the average examiner; that is, it is as liable to lead him into error as to assist in establishing a diagnosis. Another objection to the use of the sound is the danger of producing abortion. There is no doubt that formerly when the routine use of the sound was a part of a gynecological examination, that "knowing" women made use of this fact to have an abortion produced upon themselves unwittingly by the practitioner. I have known this to be done in not a few cases. This one fact should deter the practitioner who is not expert in the diagnosis of the diseases of women from using the sound except under very definite indications, and it would be a wise rule that the use of the sound be deferred unless the practitioner has knowledge of the regularity of menstruation. The average examiner is not able to recognize a pregnancy of less than two months' duration, and therefore he is always liable to produce an abortion during the first two months of pregnancy.

It would be possible to extend our discussion on the application of the principle of conservatism in gynecology by bringing in review all of the various diseases to which women are liable, but enough has been said, I hope, to teach the lesson which I wish to emphasize. True conservatism in practice should be equivalent to doing that for the patient which promotes her highest good. This and this only should be the rule of practice. Prejudices in favor either

of radical measures or of measures considered conservative under the conventional acceptance of the term, should be ignored. The problem in each individual case is to make an exact diagnosis, and then apply the treatment which experience has shown gives the patient the best chance for restoration to life and to health.

A CASE OF PROGRESSIVE MUSCULAR ATROPHY—CURED.

BY A. H. P. LEUF, M. D., OF PHILADELPHIA.

My only reason for reporting this case is the rarity of cures in this disease. My object in being so explicit in giving repeated tests of electrical reactions is to guard against almost certain doubts as to the correctness of the diagnosis and the ultimate cure, and since the treatment was the means of curing one individual it may do as much for others. At the present time (February 6, 1899) the patient continues entirely well, and is still at work on a type-setting machine.

J. W. C., aged 24 years, married, American, type-setter on daily newspaper, was first seen on July 12, 1893. He then had pains and cramps in thumb and fingers of both hands, and weakness of same while at work setting type. Thenar and hypothenar eminences of both hands markedly wasted, being decidedly concave instead of convex, and having apparently very little muscular tissue. Atrophy most marked on right side. On right side no electrical reaction whatever with 50 cell, liquid chloride of silver battery, but some pain. On left side following reaction: A. C. with 20 cells, A. O. 30 cells, C. C. 40 cells. None C. O. with 50 cells, the limit of the battery.

Treatment.—Mild gaivanism, 20 cells (barely felt) for five minutes to each hand, A. on thenar and C. on hypothenar eminences. Advised use of rubber band around thumb and fingers while at work so as to ease strain on affected muscles.

He went to the Department of Nervous Diseases of Jefferson Medical College, where his case was also diagnosed as progressive muscular atrophy and an unfavorable prognosis given.

He was put upon strychn. sulph., gr. $\frac{1}{80}$ acid. arsenic, gr. $\frac{1}{120}$ and ext. of gentian ter. i. d. on July 17th, and galvanism as above was regularly administered three times a week. He was also instructed to massage the affected eminences moderately twice a day. This he neglected half the time.

Had an intercurrent attack of sore throat on the 13th, and of coryza on the 26th of July.

Changed to 15 cells on July 19th, and this was barely perceptible.

On August 17th, eminences appeared to have gained a little in volume. Discarded the rubber band as too troublesome. Will not give up his work. Takes his chances.

On August 27th, has no more pain, no more weakness, and eminences getting fuller. Stopped medicine and continued massage and galvanism.

September 5th. Has worked steadily and hard for last nine days (Sundays included). Eminences still filling up. Reaction as follows:

R. Thenar Em.	L. Thenar Em.
C. C.....35 cells.	C. C.....38 cells.
A. C.....39 "	C. O.....45 "
C. O.....48 "	A. C.....46 "

Neither hypothenar eminence reacts. On the 8th, he reports that hand felt much better after above examination.

September 17th. Missed one application of galvanism and says his hand felt weaker.

Intercurrent bronchitis on October 3d.

October 10th. Treatment by electricity regularly applied except as above. Examined again this day with following result:

R. Thenar Em.	L. Thenar Em.
C. C.....40 cells.	A. C.....40 cells.
A. C.....40 "	— 50 "
— 50 "	— 50 "
— 50 "	— 50 "

R. Hypothenar Em.	L. Hypothenar Em.
— 50 cells.	C. C.....40 cells.
— 50 "	A. C.....40 "
— 50 "	— 50 "
— 50 "	— 50 "

In the above, the first contraction was obtained with 40 cells, that reaction being placed first which was the more marked. The — indicates no result.

October 16th. Changed mode of galvanism at this date and continued it till end of case as follows: One pad on thenar and one on hypothenar eminence, constant current each way $2\frac{1}{2}$ minutes. Same on both hands—then one pad upon the back of the first interosseous space of each hand, current $2\frac{1}{2}$ minutes each way, thus making in all an application of 15 minutes—15 cells. On 26th and 31st used 20 cells. On November 2d used 25 cells and continued same till November 30th. Ten days interval of no treatment from November 13th to 23d. Examination on 30th as follows:

Thenar Em.	Right Hand.	Hypothenar Em.
C. C.....32 cells.	C. C.....37 cells.	
C. O.....38 "	C. O.....no results.	
A. C.....40 "	A. C.....35 cells.	
A. O.....42 "	A. O.....50 "	

Prompt response to faradic current. Felt so well after last examination that he did a very large night's work—can't tell positively whether it is due to mental exhilaration or local effect from the current.

Insomnia on the 12th of December, relieved with chloralamide; on 19th dropped to 20 cells and salt solution; on 21st and thereafter used 15 cells.

January 8, 1894. 25 cells, except upon the back of hands where it was painful, and 15 cells were used.

February 6th. Becoming so sensitive to current that he can't bear more than 12 cells and feels this decidedly—on back of hand he can barely stand 10 cells.

On March 19th, examination showed following reaction:

Thenar Em.	Right Hand.	Hypothenar Em.
A. C.....38 cells.	C. C.....32 cells.	
A. O.....38 "	A. C.....38 "	
C. C.....38 "	— 43 too hot.	
C. O.....40 v'ry slight	— no reaction.	
but too hot to increase.		

Thenar Em.	Left Hand.	Hypothenar Em.
A. C.....25	A. C.....25	
C. C.....31	C. C.....28	
— 42 too painful	C. O.....41	
	— too hot.	

Continued treatment till May 6th and then found:

Thenar Em.	Left Hand.	Hypothenar Em.
A. C..... 35 cells.	C. C.....41 cells.	
C. C..... 38 "	A. C.....41 "	
— no reaction.	— no reaction.	

On June 13th, had choreaform movements of eyes and oral muscles. Treated successfully with arsenic.

In the middle of November (1894) he appeared perfectly well. Had given up type setting by hand and was then working on type setting machine. He insisted that he was cured, he had no pain, and his thenar and hypothenar eminences were normal in appearance and consistence. Reaction as follows:

Thenar Em.	Right Hand.	Hypothenar Em.
C. C.....35 cells.	C. C.....40 cells.	
C. O.....40 "	A. C.....40 "	
A. C.....40 "	C. O.....45 "	
A. O.....45 "	A. O.....50 "	

Thenar Em.	Left Hand.	Hypothenar Em.
C. C.....25 cells.	A. C.....35 cells.	
C. O.....30 "	C. C.....45 "	
A. C.....32 "	A. O.....50 "	
A. O.....40 "	— no reaction.	

Continued treatment till January 4, 1895, when he had following reaction and no sign of trouble.

Thenar Em.	Right Hand.	Hypothenar Em.
C. C.....23 cells.	C. C.....25 cells.	
A. O.....25 "	A. C.....30 "	
A. C.....28 "	A. O.....32 "	
C. O.....33 "	C. O.....35 "	

Thenar Em.	Left Hand.	Hypothenar Em.
C. C.....22 cells.	C. C.....23 cells.	
A. O.....23 "	A. O.....24 "	
A. C.....28 "	A. C.....27 "	
C. O.....31 "	C. O.....32 "	

Since then he has been examined twice with the same result. In no way do his

hands appear to be affected. They look normal.

In this case the atrophy was well marked when attention was first called to the parts by inability to hold type and the "stick" without fatigue.

I give strength of current in cells because I had no milliamperemeter at the time.

His symptoms in no way indicated the diseases with which progressive muscular atrophy may be confounded, namely: chronic myelitis of the anterior horns, peripheral neuritis, syringo-myelitis, atrophic joint affections, amyotrophic lateral sclerosis, or muscular pseudo-hypertrophy.

It was diagnosed progressive muscular atrophy and unfavorably prognosed in the Nervous Disease Department of Jefferson Medical College after careful examination by several attendants.

He is now, February 6, 1899, entirely well so far as this can be determined by his own sensations, by inspection, manipulation, and galvanic reaction.

HYSTERIA IN CHILDREN.

BY EDWARD E. MAYER, M.D., OF PITTSBURG.
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of Diseases of Children, Western Pennsyl-
vania Medical College; Physician
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Hysteria has for years been called a functional disease—a psychoneurosis. To-day we know no more. It is true that many recent investigators have advanced new theories. Goldscheider and Flatau¹ believe it to be a neuron-swelling. F. W. Myers² calls it a disease of the hypnoid stratum. Leibermeister³ shows that there is a disturbance of the cortical cells. Janet⁴ says its phenomena are due to a weakening of the psychological synthesis. In allied directions we have lately learned much. Andriezen has shown the moniliform swelling of the pyramidal cells due to the intoxications. We have been able by Golgi's method, to observe changes in the dendrites and gemmules and by Nissl's method, the chromo-

philic cellular changes. Apathy and Rahl-Ruckward have advanced new theories which, if true, would revolutionize our present conceptions, but as regards hysteria directly we know nothing new. The why is still unanswered.

Though its pathology is not more clear, we know much concerning its causation, and have established a comprehensive picture of its symptomatology.

As etiological factors, we include anything which weakens the psychic forces or inhibits them, or breaks down the will and so tends to favor the hysterical onslaughts. As remote causes have been mentioned almost everything under the sun. Of course we all recognize that febrile disorders, the various dyscrasies and diatheses, by weakening the constitution can promote the inroads of another affection, but such factors as causes do not have much bearing on the disease. De Mussy claims that he has never seen a case not of chlorotic origin. Reflex and traumatic causes play but a small part in the etiology of hysteria in childhood. Sexual causes need hardly be mentioned, the sexual instinct appearing so late in life.⁶ As predisposing causes we must consider 1, improper education and environment; 2, heredity.

As to the latter, that its influence is of moment is without cavil, but its importance has been exaggerated. If we run the gamut of all the relatives, paternal and maternal, we cannot help meeting with a near or distant member who has not shown signs of degeneracy or symptoms of some neurotic trouble. It is very easy to eagerly fasten upon such a history and triumphantly assure all concerned that that has done it all. Charcot⁶ claimed that athritic and neuropathic affections are first cousins and Grasset⁷ shows a relation between phthisis and nervous diseases. To me, improper education and environmental influences are more important than an inherited disposition. Habits are formed by imitation and repetition of the acts of the parents. If a child is a daily

witness of the hysterical attacks of its mother or of the drunken stupors of its father, he does not necessarily inherit their condition, but it is its moral effect, the influence of their habits and teaching that may make it the same. All the sensations of a child are not only novel but more vivid than those of an adult; their senses become developed through their surroundings. They reason and act according to what they see and observe. It takes little to plunge them into a seventh heaven of delight or throw them into deepest melancholy. Hysteria is simply a discharge of morbid influences along the various motor and sensory paths and improper home influence can certainly promote these morbid states. Again a child meets with no love; the parents from a misjudged standpoint deal only with heartless severity; the child knows its home only as a place to shun in order to escape from the blows of its father or cower from the mother who punishes the least fault. How easily the child realizes that it is best to deceive its parents or else it will be hurt. Again we find a caressing and flattering mother and a severe and stern father, or vice versa. The child's conscience can not reason between right and wrong, good or evil, and loses its equilibrium. Servants with their gruesome ghost stories do equal harm. As the child grows older, the state of things grows worse. Sent to school at too early an age, overstudying through the father's insistence, or from rivalry, or a wrongly mapped-out curriculum, all these are combined with little exercise, poor nutrition and neglect of hygienic rules, so that it is no wonder that the child succumbs and becomes hysterical. Lamarck rightly regards habits and influence as being able to modify a child's organic structure. The brain is a passage-way as well as a storehouse. It receives, but more than that transmits. All our impressions stored there are capable of becoming sensations, perceptions, ideas, emotions, and through these acts.

We believe with Bernheim that there are in the brain both volitional and imaginative centres. The first is an outgrowth of the second, and is, therefore, little developed in a child. Flechig's association fibres are of no value, if developed at all. In the child, there is no control over the psychic centers.

We have purposely left to the last toxic and auto-toxic causes.

Many facts of bio-chemism in relation to mental physiology are yet unsolved. Morbid secretions and excretions, defective metabolism, changes in electro-muscular excitability and myotatic irritability all have been observed in hysteria and to many seem due to toxines. A further study of the lymph-connective system and of bio-chemical changes, may reveal much in this direction.⁸

Notwithstanding all this, the symptomatology of hysteria is surprisingly complete. Hysteria is a distinct entity. Its symptomatology though variable is so distinct and typical that diagnosis is not difficult in most cases.

Already known and described by Hippocrates who fathered the views of its being a uterine disorder and therefore occurring only in females, it was only the present century which has seen his arguments refuted.

Lepois, it is true, in 1681 advanced the opinion that the uterus was not at fault, and that it may be found among men. But his remarks went unheeded. That it might occur among children was not even thought of till 1748, when Rawlin ventured to assert this. But it remained for Briquet⁹ in 1859 to show how common it really was at all ages and especially in children.

At that time, hysteria in adults was rather well known. Brodie,¹⁰ and Carter¹¹ had already published their admirable writings upon the subject. But Briquet's admirable treatise first turned attention to hysteria in childhood and paved the way for our present ideas. Since his time the literature has enormously increased. Bourneville,¹² Bab-

insky,¹³ Charcot,¹⁴ Tourette,¹⁵ Casaubon,¹⁶ Clopalt,¹⁷ Richer¹⁸ and Ollivier¹⁹, have turned light upon the question so that now our clinical knowledge of hysteria is very accurate. To-day it is generally accepted that hysteria is not rare among children and that as a children's disease it dates from antiquity, as witness the children's crusades, the epidemics of chorea-magna and tale of the Pied Piper of Hamelin. But this acceptance has come slowly. In the early 80's through works of Seeligmüller,²⁰ Henoch²¹ and Schaefer,²² Germany, followed France and it is only in the last ten years that England and America have accepted these opinions.

Briquet²³ claims that one-fifth of all cases occur in children. Jolly²⁴ confirms this for Germany. Putnam,²⁵ Mills,²⁶ and Taylor,²⁷ agree that it is frequent in America. Sachs,²⁸ Burr,²⁹ and Jacobi,³⁰ claim that it is not.

Hysterical symptoms are both subjective and objective. The former are especially strong in children. There is always a chain of psychic phenomena, modifications of psychic personal characteristics, and alterations in intelligence, which indicate an hysterical tendency. Mere presence of emotional conditions does not, however, constitute hysteria. The French school (Conturie,³¹ Goldspiegel,³² Clopatt,³³ etc.) make grinding of the teeth, pavor nocturnus, nocturnal enuresis, etc., hysterical symptoms. They are not; but are merely psychic stigmata of degeneration. To illustrate: "Night terrors," which, in all the French theses, was made a prominent symptom of hysteria, is really a symptom of a disturbed system, as Ollivier first pointed out. "Through an acquired or congenital susceptibility, influences otherwise physiological become morbid. It is natural that the children see the dog in passing, but the fright caused by the same is pathological."

Hypochondriacal states may also be confused with hysterical ones, although the former are rare among children. A hypochondriac is always depressed, moody, anx-

ious and thoroughly self-conscious; while an hysterical patient is careless, forgetful and of varying disposition. But hard and fast distinctions cannot be made, and without objective signs, a diagnosis is never positive. It is evident that no single psychical symptom can be said to belong to any one disease. Psychical states are so variable that it is only from symptom-complexes that we can recognize conditions and assign causes. For this reason neurasthenia and hysteria are often seemingly associated. With the latter, the machine stops because it is prevented by some outside agency; with the first, the power has been withdrawn. When then an external inhibition destroys the motive power as well as clogging the wheels we have a confused symptom-complex which is hard to diagnose. In the same way, maniacal symptoms are found, mania and hysteria often existing conjointly.

Hysterical children are generally precocious and egotistical, they crave sympathy and are impressionable and emotionally irritable, reacting to the least nervous excitement. At one instant gay and joyous, they can without cause suddenly become sad and moody, reject their little friends, break their toys, and mope for hours, or they will suddenly burst out crying and stamp and rave without assignable cause. They are generally capricious and have depraved tastes (*pica hysteria*.³⁴) Some are so stubborn as to be unbearable, others so violently affectionate as to be disagreeable; if a girl, she already seeks to attract attention, gives herself airs, and seeks to play the lady and to appear important.³⁵

The higher psychical centers are also affected. The longer the disease lasts, the more does the child concentrate its mind upon itself, the greater becomes its trouble and the more varied its bodily illness. Suggestion is the field in which they wander and more and more does imagination rule. The will weakens; *abulia* and *metabulia* result; as Paget³⁶ aptly said: "It is not 'I can-

not' that dominates them as much as 'I cannot will.'"

A case that I saw by the kindness of Dr. Tooth, at National Hospital for Paralyzed, London, shows well its psychical nature. A patient, a girl of 10 years, came with its mother who claimed that the child had "fits." Every day at dinner, she would suddenly begin to swear, throw her food on the floor and fall heavily herself. She never lost consciousness nor did she bite her tongue. The girl claimed that something within forced her to act thus. At other times she was docile and intelligent. The knee-jerks were exaggerated; there were no objective symptoms.

The motor disturbances are of many forms but are rarely found together in one case, i. e., the hysteria is monosymptomatic. In this respect it differs from hysteria in adults. Spasms are very common. A continuous, rhythmical, fibrillary twitching of the facial muscles is often noticed and generally unilateral. In these cases, even if no dental trouble exists the pulling of a tooth often confirms diagnosis and cures. Functional blepharospasm is also often cured by the ordering of dark glasses. *Subsultus tendinum*, *singultus*, *globus*, *hydrophobia* hysteria, *torticollis*, hysterical dyspnoea and cough are all forms in which the spasm may show itself. An hysterical cough is always superficial and dry, and never painful, and consists of short continuous movements. In hysterical mutism, the absence of paralysis or loss of intelligence will exclude cerebral disease. Co-ordinated spasms are especially frequent with children. Many of the tics and many forms of chorea are hysterical.³⁷ The *paramyoclonus* of Freidreich, and the *chorea electrica* of Hensch, are the disorders which certainly seem hysterical. There is nothing distinctive about a functional tremor. It may be coarse or fine, the oscillations varying from 4 to 12 a second. Some are purely emotional, others are intentional and exaggerated on voluntary effort. Often from

the tremor alone, disseminated sclerosis is thought of, and the other symptoms may not be indicative of either.³⁸

The most conclusive as well as the most common hysterical symptom is functional paralysis. They impress one at once by their variability as to the degree of paralysis, relapsing and improving, changing in integrity and localization, without assignable cause. They may be flaccid or spastic, but generally the latter; are always limited by physiological limits and the muscular sense is generally abolished. Every part of the body can be affected, even facial paralysis can be functional contrary to what is generally supposed. Resulting from the paralysis and consequent inactivity of the part we may have muscular atrophy,³⁹ as Babin-sky first pointed out—an inactivity atrophy, pure and simple.

When atrophy is present, if hysterical, we have:

1. No fibrillary twitchings;
2. Idio-muscular excitability;
3. Electrical contractility diminished in proportion to the atrophy;
4. Rapid progression of the atrophy.

The paralysis is generally of one nerve-root, or parts of different nerve-roots. Hence the paralysis is rarely hemi—or para-plegic but generally one hand, one foot, one hip or one shoulder is affected, i. e., associated groups of muscles being only affected. A point to remember is that a patient often can move the paralyzed part when at rest in a chair or in bed. In connection with the paralysis, the reflexes are of importance. An exaggerated knee-reflex is very common with hysterical patients. When ankle-clonus is present the thigh generally partakes of the motion; the clonus in fact being due to the contraction of the calf-muscles.⁴⁰

Buzzard⁴¹ has called attention to the weak or absent plantar reflex with hysteria.

The gait resulting from functional paralysis of the lower limbs, is peculiar. It is jerky, not halting or hesitating; the steps taken are small and dragging and notably

forced. No spreading of the legs as in organic incoordination; no high step with foot-drop like in infantile paralysis and multiple neuritis; no scythe-like motion, as in organic hemiplegia with the turned-in toes catching on the floor at each forward step. The muscles impress you as being unnecessarily used rather than being useless. A paralysis in which a diagnosis from hysteria is at times difficult, is polyneuritis, but the following table may help to clear up the question:

HYSTERICAL PARALYSIS.

1. Rarely loss of reflex excitation;
2. Regional anæsthesia;
3. History negative;
4. Psychical symptoms prominent;
5. Atrophy rare;
6. Varied types of ataxia.

POLYNEURITIS.

1. Always;
2. Anatomical;
3. Cold, alcoholism;
4. None generally;
5. Common;
6. Typical.

Contractures are often met with. They are very obstinate, the flexors as well as the extensors being involved, not relaxing even in sleep, it being a purely tonic muscular contraction. Under chloroform they disappear, thus making diagnosis certain. Unlike organic cases also, they resist all passive movement, and are thoroughly atypical, as a dorsal flexion of the hand, contraction and adduction of both legs, etc.

A case that I saw was of a girl 12 years old, who had a pes equino-varus with peritoneal contraction. There was no atrophy, no history of injury, nor any hysterical symptoms, but from the sudden onset, no known cause, and the otherwise good health of the child, functional disturbance was suspected. Under chloroform, the contracture and equino-varus disappeared, thus making diagnosis certain.

Astasia-abasia⁴² is often met with, and quite frequently in children, Bruns claiming more so than in adults. In this state the patient cannot walk or stand by reason of psychical inhibition; yet when placed in bed or upon a chair may move them freely.

When present its sudden onset, the fact that it appears and disappears, the inability to use its limbs when asked to walk or stand, yet moving them freely in bed, the intact motor strength and the anæsthesia, which if present is found in patches or in glove-shape forms without any disturbance of coordination—all these will help to make its functional character clear.

The anæsthesia of hysteria is quite different from that accompanying organic lesions. It appears in longitudinal stripes parallel to each other and is grouped anatomically. But in hysterical cases it is found in circles perpendicular to the long axis of the limb, or in irregular patches, a physiological grouping. Hence the names, stocking or glove-type given to hysterical anæsthesia. It is true the first may occur in locomotor ataxia, and multiple neuritis, and the second in syringomyelia and beri beri, but very rarely, and then generally shades off gradually. Patrick⁴³ has also discovered that the limiting circle of hysterical anæsthesia changes even within a few minutes, so that an examination an hour after a previous one will give different results often amounting to one or two inches.

In children, hyperæsthesia is perhaps more often found than anæsthesia. Richet's hysterogenetic and hysterofrenetic zones are rarely found with children.

Of the special senses, the eye presents the most curious and interesting symptoms. Pupillary lesions never occur. The visual field of hysterical patients is often found diminished but always regularly concentric. The macropsia and micropsia first noticed by Parinaud never occur in organic cases. Charcot claimed that in the dyschromatopsia of organic lesions, yellow and blue were the last colors remaining, while red remained last in hysterical cases. Photophobia, tintinnus aurium, dysgeusia, ageusia, etc., are often hysterical.

It was Brodie⁴⁴ who first called attention to hysterical arthritis being mistaken for articular rheumatism. In hysterical cases,

pressure causes pain, even from merely touching the skin; while forcible apposition of the articular surfaces does not. Lloyd⁴⁵ styles these hyperalgesias of joints as the most common of all. Nemo-mineses shows that there is no deformity, no temperature in the hysterical cases while the joint is freely movable under chloroform. Œdema may come on and extensors atrophy as Paget⁴⁶ showed, thus increasing the difficulty of diagnosis.

Vasomotor and secretory disturbances such as ischæmia, hyperæmia, hæmatemesis, anorexia, etc., are so rarely hysterical symptoms in children that they need not be discussed. Tympanites also may occur. Ross⁴⁷ described a case where the patient could be kept afloat in a bath, due to the gaseous distension. Peritonitis in such cases can always be excluded; the hysterical cases not having any rise in temperature.

Briquet relates a case of hysterical disturbance of the digestive tract in which liquids injected into the rectum were vomited per os. Hysterical paroxysms with the four stages described by the French school do not often occur with children.

An abortive form of the clownism stage is the most common and is called chorea magna. When necessary to exclude epilepsy, the different characteristics of the latter, the biting of the tongue, involuntary micturition, idiotic facies, peculiar aura, elevation of temperature will easily make the diagnosis.

Some differential points of these two affections I never see emphasized, if spoken of at all, though they are often sufficient to make a diagnosis. First, in hysteria, the patient resists the opening of the eyes, while in epilepsy he does not. Secondly, in the former his face is flushed and red, in epileptic attacks it is pale and colorless. Also the peculiar chattering of the teeth in hysterical attacks should be looked for. In all such cases, remember that mere simulation is not hysteria. I remember a case of a child whose sister had an epileptic attack and was there-

fore removed from school and overwhelmed with kindness by the parents. A second attack of her sister was seen by the child. She had soon after an attack similar to her older sister and repeated this several times before we saw her. On being accused of simulation she confessed that she wanted to have her own way, as she noticed her sister obtained, through her illness. Now that was not hysteria any more than it was epilepsy. It cannot be brought about by the will, it is as before said, the want of will that characterizes it.

We have one class of cases where diagnosis is difficult. That is when hysteria complicates organic trouble or when, as Weir Mitchell aptly says, symptoms of real disease are painted on a hysterical background. Hysterical aphonia may accompany laryngeal catarrh, bronchitis can cause hysterical dyspnoea, paralysis of hysterical origin may accompany a simple neuralgia or sciatica, etc. A case that illustrates this is one that Grasset⁴⁸ relates. A man bitten by a dog had foaming at the mouth and spasms as in hydrophobia. He was immediately taken to the Pasteur Institute and was discharged cured. Two weeks after, the same symptoms returned and he came under Grasset's care. He found with the hydrophobic symptoms, spasmogenetic zones, narrowing of visual fields and anæsthesia of left side and diagnosed it as hysteria. There may have been no hysterical symptoms during the first attack, the rabies symptoms may have been hysterical but how many would have investigated further after finding unmistakable signs of hydrophobia?

Happily with children, when once recognized, the treatment is easy. The more strange bizarre and unstable the symptoms the better is the prognosis. Charcot has said of hysteria the older the woman is the harder the cure. We can inversely say the younger the child, the easier the cure. This follows from their being so easily suggested to. We have repeatedly said hysteria is a psychosis. We know that it is

accompanied by diminution of inhibitory force of cerebral activity, provoking thereby diminution of volition. This promotes suggestion and autosuggestion. By working upon the latter we can alter the moods, help to increase the volitional powers and diminish the imaginative. From this it clearly follows that the treatment is normal.

A psychic disease, the treatment is psychical. In fact, medicinal treatment is not only often futile but may be harmful. Make the parents, if possible, realize their responsibility and the effects of their influence in the future progress of the malady. No feebleness, no submission to the caprices of the child, not too much rigor and especially no corporal punishment. Too much severity is as bad as too much love. But the parents too often are unable to carry out such injunctions. Then we have only one alternative—isolation from home surroundings. This does not mean from other patients, but simply separation from home influences. This is to many a hard point. They will ask why isolation in a hospital? Why not at home? They assure you that they will do whatever you say, that they can watch and attend to the patient better than strangers. You cannot make them understand that the patient is harming them as well as itself. O. W. Holmes once remarked: "An hysterical girl is a vampire sucking out the blood of the people around her." Never promise a cure without isolation; do not use half-way measures as you only injure yourself. The child brought to a hospital realizes itself alone, it cannot call on weak parents to act against the physician, stop all visits, even letters. It finds it will not get home until cured; the new surroundings, a strange physician—all these suggestions work wonders. The family doctor is really in such cases the best physician as he knows and understands the family and can watch the growth of the child and direct its education, but if he does not take the upper hand from the first or allows the mother's word to have

any influence, woe to his treatment. It is as disastrous as if he did not understand the case. He will not succeed, will lose prestige, friends and money. Unsuccessful at his or the mother's suggestion, a specialist is called in. The latter is firm, isolates and cures. Not from superior knowledge, but as he is supposed an authority his word is law. He isolates the child, compels it to be good and to control itself and to act naturally and in a few weeks returns it cured.

Of course there are other indications to meet. Careful dieting is invaluable. The food must be light and nourishing and can include meats and greens, but milk and fruits are the chief articles to depend upon. A daily bath or douche should be ordered. The shower and cold plunge—the latter at a temperature of about 60 degrees, for from five to ten minutes, the cold jet and cold affusions are the most important. Cold frictions, a wet pack, a Charcot douche or a Scottish douche may all be found useful. The kind depends upon the age, vitality and present condition. Massage and electricity on account of their suggestiveness more than from any action in themselves should be used. Hypnotism—often dangerous in adults—should never be used in children. I have, however, seen the transferred system as practiced at the Salpetriere do much good. When anæmia, debility or other diseases co-exist, they should be counteracted of course by appropriate remedies. For hysteria if drugs are to be used, the best are the copper salts, gold and silver chloride, and the valerianates or the sumbul preparations. Gowers recommends turpentine and others asafoetida but their efficacy lies largely in their taste and odor.

Before concluding, I wish to briefly touch upon the question of prophylaxis, stating from my assumption made in the early part of this paper, that though hereditary influences are of some moment as a causal factor, still environment and improper edu-

cation, by developing a neurotic tendency, do more harm—it can be seen that prophylaxis is of importance. Yet only State interference could accomplish anything. It is true by promoting public hygiene, by exercising control of the ventilation of homes, by creating public baths, by erection of sanitary closets, and good sewerage, by controlling the liquor traffic and public schools, that it does much good. But unfortunately its function cannot go further. It cannot control drunkenness, inter-marriage of neurotics and ill-treatment of children. So a prophylactic treatment can never be realized.

Education is of great moment. Public schools are the best; here the child is less liable to be surrounded by weak children and is not so liable to become a victim of the endemics of hysteria, so often seen in convents, pensions and boarding schools. The number of hours and the time of school, we also know to be important questions. The question of exercise rightly receives attention. We know that excessive corporal exertion induces nervous exhaustion as well as excessive mental labor.

The State then can do much, but not all. It can save us from such epidemics of hysteria as in the days of Salem witchcraft; it cannot stop hysterical camp-meetings or the Gautamas seeking after Nirvana, but by good discipline and careful education, the parent can be made to supplement the efforts of the State and to promote self-control of their offspring.

A duty yet remains to speak of, and that is that of the physician. Not only should he seek to direct the education and development of the children brought under his care, but he should be more alert to recognize hysteria and its manner of treatment than heretofore. How often have splints, casts and embrocations been applied to hysterical joints, or tenotomy about to be performed, or tumors excised when under narcosis the contracture and swelling disappear? How often did men like Mollinger and Kneipp,

how often places like Lourdes and Triescore patients after physicians had tried and failed? Let the physician recognize the importance of suggestion in therapeutics and he can do what enthusiastic charlatanism has done for years.

"No hysteria; no quackery," says Strumpell,¹⁰ and he is right.

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SOME OBSERVATIONS ON THE TRAUMATIC NEUROSES IN RELATION TO LITIGATION.

[Read at the meeting of the Allegheny County Medical Society, Nov. 15, 1898.]

BY SAMUEL AYRES, M. D., PITTSBURG.

No class of disorders affecting the nervous system has interested me more than some of those vexatious ones resulting from traumatism. Not altogether on account of the obscure pathology underlying most of them, for many neuroses and psychoses are yet unassigned to definite lesion, but because of the extreme difficulty in determining, objectively, the genuineness of the symptoms, and their immediate and remote effects; in other words, in arriving at an exact diagnosis, and prognosis.

In the language of Page, in every case of traumatism, or alleged traumatism, involving litigation, we instinctively ask this question,—“Is the condition before us real or feigned?” On its correct answer very much may depend. We have here a duty to the patient and friends to discharge, a duty to the person or corporation from whom legal redress is sought, a duty to the court, and not the least, a duty to ourselves and our profession.

In our investigation of these cases we should endeavor to approach them in the most impartial spirit, but whether this can be done or not depends much upon the source of our information, and whether we are employed by the plaintiff or defendant.

If by the defendant, the statements are frequently to the effect that the plaintiff is not injured, or if so to a trifling extent, and that there is nothing at all in the case. If we are engaged by the plaintiff, frequently a tale of woe is poured into our ears, which would admit of no doubt, as to the most serious, or fatal effects of the injury. Hence I affirm, such information is liable to bias us unconsciously or in-

voluntarily. But when we enter upon a personal examination, all these influences should be, if possible, laid aside, and the most earnest efforts made to ascertain by every scientific test and method, by the most careful inquiry, and by every device, the true condition of the patient.

Have we tests sufficient to clear up all doubtful cases? No, we have not in my judgment, though some writers think otherwise. The obscurity of certain symptoms, owing to their subjectivity, the elements of malingering, or of voluntary or involuntary exaggeration, and the doubtful interpretation of certain tests, enter so largely into these cases that our minds are often filled with doubts, notwithstanding our best efforts, and it is questionable whether by a line of testimony we may not be doing great injustice to the plaintiff or the defendant, as the case may be.

I do not here refer to those cases accepted as organic—with symptom-group so plain that a diagnosis is at once clear, as for example certain of the sclerosis or atrophies, or paraplegias, or degenerations, but to that class known as functional,—with largely subjective symptoms, yet with enough objective background to make their existence plausible cases, with possibly increased or diminished knee-jerk, with worn and jaded facial appearance, with palor, defective nutrition, loss of body weight, and innumerable aches and pains, and grunts and groans. As Page remarks,—"Their chief characteristic is the obscurity, the intangibility, and entire subjectivity of all symptoms and complaints. They are, not rarely, accompanied by some manifest disturbance of health, which is induced by the mode of life to which the individual restricts himself."

Since the field of the traumatic neuroses is such an extensive one, and the literature so voluminous that not even a cursory glance could be included in the limits of a paper, it has seemed to me that a brief consideration of some of the tests employed in

the study of doubtful cases, and the citation of some clinical cases bearing on these tests, would prove of practical interest.

A test frequently used by me, and I suppose by all physicians, in such examinations, is what I shall term the "Diversion Test."

It is, as is well known, to ascertain by the statement of the patient where painful, or alleged painful points or areas are situated, and then in a little while by concentrating his attention elsewhere, to exert firm pressure on the alleged painful point. If such pressure is not noticed by patient, we are in the habit of regarding it as an evidence that the pain is not genuine, but affected. This test has usually been a satisfactory one with me, and to investigate its value I recently applied it in a hospital among patients who had various painful disorders, as inflamed joints, phlegmous, etc., etc., and where litigation was not even thought of.*

Case 1. Recently though, in a case of traumatic spinal concussion from the rapid fall of an elevator which was undoubtedly genuine in all respects, I found many painful points over the spinal vertebræ, but with attention diverted, firm pressure failed to elicit pain or the complaint of it.

Case 2. More recently still, I have had further reason to doubt the value of this test in all cases, and to reflect whether mental attention may not itself be a factor of considerable weight.

A man who had been in a railroad collision about one year ago, received the brunt of the blow over the lower dorsal spine, two ribs being fractured near the vertebral attachment, and a spinous process possibly broken off. He soon suffered the most intense pain in the region of the spine, which has continued in modified form since that time. He has lost about seventy-five pounds in weight. He walks slowly, with fixed attitude and careful step to avoid jar-

*The result of these cases, with others to be added, will be reported at a later date.

ring the spine. There is no ground for suspecting him of dishonest motives, all other symptoms bearing out the seriousness of his case. I examined him for the first time six months ago, and found the lower dorsal and upper lumbar vertebræ extremely tender on pressure. A little later, while elevating his left arm, and forcibly flexing the wrist, I asked if it produced pain, and he said it did not. I was greatly surprised that he did not notice my right thumb which was all the while boring forcibly into his twelfth dorsal vertebræ.

Case 3. Some years ago an employe in the Carbon Bisulphide Works in our city, sued the company for alleged toxic effects from the chemical. Among other symptoms complained of was analgesia of the back, and other parts of the body, and no amount of pin pricking or pinching while his attention was directed to the parts could phase him, but later on, while investigating some other alleged symptoms, I suddenly jabbed a pin into the analgesic region, and the response by an involuntary jump was so pronounced as to admit of no doubt as to the effort at simulation.

Case 4. A few months ago I was requested by the attorney for the plaintiff to examine a woman who claimed to have injured herself very seriously in a fall from a street car by catching her foot in a cross bar of the track.

She did bruise the back of her head and right deltoid muscle, and went to bed with some acute symptoms. On the third day the temperature was 101° , and the pulse 120. A few months after I examined her with her physician. The usual array of functional complaints were present, but no very tangible signs, except exaggerated knee-jerk. The "Diversion Test" applied to the spine operated as I rather expected, and there was other strong evidence to my mind of exaggerated, if not of manufactured symptoms.

After due consideration I advised her counsel to settle the case, but the defense

would not settle. Some months after I again examined her with physicians. Since the former interview she had developed severe pain in the shoulder joints, and an inability she declared, to lift her arm to a horizontal line without the greatest agony. This she averred had been present from the first, but my former notes contained no mention of it.

After a little while I had her attention concentrated on her back, and getting her while standing up in front of me to place her outstretched hands on my shoulders, while I grasped firmly each arm near the axilla, I requested her to kneel on the floor, so that I might ascertain a certain matter of great importance about her back. Complaining bitterly of her back, she gradually let down on her knees, forgetting the while that her arms in this position were elevated more than forty-five degrees, for her hands were still on my shoulders as I rather leaned forward. Suddenly realizing this oversight, she dropped them, and at once set up a cry of pain in the shoulder. I need hardly mention that this determined my course, and I declined to testify in her case.

It must not be forgotten that some attorneys, once learning of the use of this test by physicians, will not hesitate to caution their clients about it before a medical examination and thus defeat the physician's purpose. I am satisfied this has been done in cases with which I was connected.

The "Suggestion Test" is another one that may be resorted to by physicians, and served me well in the following case:

An elderly woman with doubtful reputation claimed to have caught the heel of her shoe in a hole in a railroad platform, and to have fallen down, sustaining serious injuries.

She entered suit for damages against the railroad company. She was able to limp to my office for an examination some time after, which satisfied me there was much exaggeration, if not malingering in her case, though as is so common, there was

a semblance of genuineness in some of her symptoms.

Affecting the utmost sympathy for her I suggested that her disability would increase to such a degree, that by her next call at my office in one week she would require a cane for support. At that time she returned leaning heavily on the cane. At this interview, pretending to note the increased severity of her symptoms, I predicted that at her next visit in another week, both the cane and a crutch would be indispensable, and so they proved to be from her point of view, and she hobbled in with them at the appointed time.

Again at this examination I assured her that the progress of her ailments would demand two crutches the next week, and they also were faithfully brought into requisition at the appointed time.

The readiness with which she fell in with my suggestions, together with other evidences, satisfied me that she was an imposter, which I so stated to the company. And yet, as so often happens, the railroad was afraid to trust her case to a jury, and I think settled with her for several hundred dollars.

The "Suggestion Test" can be applied in different directions, and may be found of considerable value in hysterical cases, as contractures, anesthetics, etc.

As to the value of Mannkopf or Traumatic Cardiac Reaction Test, I am not fully satisfied and would be glad to learn of the experiences of other physicians with it. In case No. 4 above mentioned, it worked satisfactorily, that is, pressure on indifferent points, increased the pulse rate, rather than on the alleged painful points. But there is this uncertainty in this test. In pressing on alleged tender points of the imposter, there is such an amount of resistance, wriggling, and twisting, that the pulse will naturally accelerate, hence, the results will be doubtful.

In my judgment no subjective symptoms

whatever are to be relied on in doubtful cases unless they conform to certain well known laws in symptomatology, and of these, the various pains and parathesiæ are the most unreliable. Any simulator can affect these, and it is sometimes impossible to disprove them, as for example in cases that have been coached, and who could not be caught off their guard.

Of course we all know that the malingerer exaggerates his pains and symptoms, but we must know more than this before setting them aside.

The claims of various paræsthesia as numbness, coldness, stiffness, or soreness, are wholly unreliable, and are not always easily cleared up, though of course we have certain objective tests that materially aid us to this end.

Another thing that the malingerer would be sure to do instinctively, or deliberately, would be to sway when his eyes are closed, to stagger when he walks, to complain of vertigo, or of weakness in one leg or the other. Hence I wonder that these symptoms are spoken of at all in differential diagnosis, except as a caution against reliance on them.

In other doubtful cases, involving large amounts of money, where it is highly important that the physician should be very sure of his ground before testifying, it has seemed to me that a detective system could be employed, and would be entirely justifiable. For instance, a patient asserts that he cannot sleep, or if so, gets only an hour or so of unbroken rest each night, also that he suffers torments of pain when he walks and must lie down most of the time. Possibly you find him in bed, and he declares that he is unable to leave his bed through weakness, pain, or suffering; or he insists that he vomits most of his food. Now you have no way of disproving these statements, though you may believe them gross exaggerations or wholly false.

Could you place a nurse of your selection in charge, you would soon be in posses-

sion of the desired information; but perhaps they will not have a nurse, or cannot afford one. It will not do for you or the company, against whom suit is entered, to volunteer to furnish such a nurse. The malingerer can see through that, and would decline the offer. For such cases it has occurred to me that a detective properly disguised, as maid or man, as the case might require, should seek employment in such a house, or possibly apply as a nurse at very low wages. Should this succeed, their entrance into the house would enable such observation of the case, that all doubts would be dispelled.

An attempt similar in character to the above was recently made by me, and the failure, rather than its execution was strongly suspicious. A man while driving his wagon had a collision with a street car, and was thrown to the ground. The next day he developed a spasmodic affection in his right arm and hand—a cross between an exaggerated tremor and a clonic spasm, which was continuous, he asserted, day and night. Examining him long and critically, and finding no contusion on head or arm, or signs of injury, I was at first puzzled. Then observing at another time that the spasm ceased momentarily while I closed his eyelids, I became suspicious of him. With other tests the spasm seemed more irregular and awkward. His physician and myself withdrew and consulted, and agreed to have him go to a hospital for three days, so that he might be under surveillance at night. Pretending to him that the nature of his case demanded hospital treatment, for this length of time, we endeavored to have him enter, but he would not consent, and thus deprived us of certain means of clearing up his case. I saw him again some weeks after. The spasmodic disorder had about disappeared, he said, though there was some tremor of his hand at times during the examination, which seemed voluntary. He had been working for several weeks as solicitor for an insurance com-

pany. He now complained most of pain in abdomen, and much hemorrhage from bowels, which he said had come from the accident, and never troubled him before. I examined rectum and found internal hemorrhoids, and an appearance which would indicate bleeding and prolapse of the bowel with stool. But I believed this had nothing to do with the injury, though it was possible it may have resulted from it.

A persistently high pulse, over eighty-five or ninety in a man, and over ninety-five or one hundred in a woman, provided it is not natural with them, is to me one of the strongest objective symptoms in these so called functional cases. It is not likely to be excited by any means known to the patients, provided they have had time to rest before the examination, and should receive much weight.

We are all aware how frequently the high pulse is to be found in most of these traumatic cases that are genuine, exceptionally the pulse is very slow, from 50 to 60 per minute, the great depression of the nervous system unusually depressing the heart.

Exaggerated reflexes, superficial and deep, are also valuable external signs, but they must be joined with other strong evidence.

Concentric limitation of the visual field is strongly confirmatory, but its absence does not negative the value of other objective symptoms. Profuse menstrual flow recurring at the periods following an accident, is also an important symptom; but since we have no means of verifying the patient's statement on this point, it would not be of much value in a doubtful case. It is not likely that the imposter would assert that the flow had ceased; she would more naturally complain that it was excessive.

Loss of body weight, pallor and dyspeptic disturbances must be placed among unreliable indications, unless supported by others of a positive character, when they should receive due weight.

Voluntary confinement to bed on liquid diet, will soon reduce the weight and pale the face, and possibly coat the tongue if the bowels are allowed to be confined. So that here also, we must not be misled. At the same time, the facial appearance counts for much, and the lines of suffering, the unmasked expression of pain, and the weary eyes from sleepless nights, will not be lost to the keen observation of the thoughtful and experienced physician.

If we have positive means of ascertaining that sleep is very broken, and that not more than two, three, or four hours are obtained each night, it is a strong confirmation of the genuineness of the case.

The presence of tremor is of somewhat doubtful interpretation. It is a symptom quite easily assumed, and requires the closest scrutiny for its elucidation. Persistent tremor not having previously existed, would be a strong objective symptom.

Apparent incontinence of urine could not be accepted on mere statement, especially if some urine were obtained, and found to be normal and acid. The voluntary passage of small amounts of urine would likely be attempted by the counterfeiter.

What shall be said, as to prognosis, and therefore the amount of compensation in those traumatic cases, which after a thorough examination we believe have suffered some degree of injury? Our opinion is frequently sought with a view to settlement, and the avoidance of litigation. These are the cases that so often exaggerate unconsciously. At least we are inclined to give them the benefit of the doubt, and do not believe they deliberately magnify their ailments, though positive ourselves that these ailments are not nearly so serious as they imagine. Perhaps they were already neuropathic, so that a slight exciting cause has stirred up the latent tendency. Perhaps their trifling ailments have been sedulously fostered and encouraged by silly friends, and mercenary and designing relatives.

We must not be deceived here. Having

satisfied ourselves by proper tests and study of the case, that no organic trouble is present, nor likely to ensue, our opinion is to be based upon the severity and duration of the symptoms, and we will remember also that an early settlement, in just such cases, is a psychical, as well as substantial curative factor of decided value.

It is refreshing to the medical examiner to come across those sincere and honest cases, as he will occasionally do, who protest that they will not resort to legal process under any circumstances, that they are not sure they have been seriously injured, though very different from what they were before the accident, and that they are willing to accept such compensation as may be thought just and right. Here the physician's duty is virtually a labor of love, and he will put forth every effort to give an opinion which shall be fair to all concerned. I had a notable case of this kind about a year ago.

A young woman of refinement, who had earned her living, and a good one at that, as life insurance agent, was in a severe railroad wreck, and was apparently not injured. She assisted in caring for the wounded, and rendering other valuable aid, and quite forgot about herself. The same night a roaring sound developed in her head in the occipital region, and soon after many well-known symptoms appeared. She was placed in a hospital for treatment and observation by the railroad company, and subjected to much unpleasant criticism while they were trying to decide whether or not she was feigning.

When I saw her some months after, she was veritably a nervous and physical wreck, being unable to sleep, or to eat,—the roaring in head fairly distracting her. I spent two hours in her examination, every test satisfying me that the case was a most pitiable one. I advised a settlement of five thousand dollars, as everything pointed to a disability of at least five years, if not for all time, and the railroad quickly closed

on that basis. Her earning power had been about one thousand dollars a year.

In conclusion, we should not forget the grave responsibilities that rest upon us as physicians in all these cases. It is required of us to determine whether the party is really injured or not, and if so, how seriously, and what the results may be. Our position is, therefore, a most difficult one. In some of us, perhaps, in all, at times, there is a disposition to underestimate the severity of symptoms, and as a consequence great injustice may be done to those deserving of every consideration.

On the other hand, if careless or too credulous, the malingeringer may accomplish his base designs. Whether we should enter upon all examinations in a spirit of skepticism and believe the plaintiff unharmed until proved injured, is a question for each physician to decide for himself. For my own part, I am quite in accord with the trend of American neurological opinion at the present day, which is, that the majority of these cases are genuine, and that attempts at simulation are less frequent than was formerly believed.

THE COUNTRY DOCTOR.

[Read before the Beaver County Medical Society, November 10th, 1898.]

By G. Y. BOAL, M. D., OF BADEN.

The country doctor is a member of the human family, who, having acquired a more or less classical education in one of our numerous high schools or colleges, devotes himself for the next four years to the study of medicine in one or more of our reputable medical colleges. After graduating therefrom, and, passing a creditable examination before the State Board of Medical Examiners, he locates in a village or cross-roads in the country, for the purpose of applying the healing art to the villagers and yeomanry of the vicinity.

We desire to call attention to a few of

the characteristics of country people in their relation to the medical profession, to note some of the essential causes of diseases of the country, and, finally, the necessary qualifications of the country doctor to promote his efficiency in his work.

The country people are not distinguished for erudition or æsthetics. They are as a class honest, industrious and frugal. Their knowledge of diseases and their treatment is better than that which prevails in cities. Their economical habits lead them to purchase medical works intended for family use. The authors for the most part are irregulars. The treatment recommended in these books is disappointing, as it is not practicable. The diagnosis is a copy from standard works. These books are diligently read by the heads of families and while the information gained does not aid them in treating the sick member of the family as they anticipated, it does give them an almost incredible knowledge of disease, its limitation, diagnosis and prognosis. Country mothers are more expert in diagnosing the eruptive fevers in the early stage of the disease, than the young physician; and the youthful country doctor must exercise discretion lest he misapply his knowledge of chicken-pox to measles and "rötheln" to scarlet-fever. With this knowledge of diseases acquired by country people from the family doctor book and their knowledge of standard remedies handed down to them from former generations, they are better able to discriminate between the true physician and the charlatan. They also appreciate more highly the value of the skilled physician and he commands a higher degree of respect from his patrons than is enjoyed by his metropolitan brother. It is in the city where quacks flourish and where the noblest of professions is prostituted for self-aggrandizement and greedy gain. The regular profession only is able to gain a substantial patronage among the level-headed yeomanry. Pathies only have an ephemeral existence among this class of our population. Many of the patrons of charlatans are

found among educated and refined metropolitans who with all their literary attainments might learn much of rational medicine from their less erudite country cousins.

In tracing the source of the acute, infectious diseases we find that many of them had their origin in the country. Where vegetation grows luxuriantly, there the vegetable, pathogenic micro-organisms find a congenial soil for their growth. Lurking in the uninhabited forest and broad expanse of prairie were not only the wild beasts of prey to intercept man's progress, but even a deadlier foe. The plasmodium malarie had been there for ages eagerly awaiting an opportunity to enlarge the spleen of the invader.

The vegetable bacillus of Eberth—the essential cause of typhoid fever—not satisfied with the "Monroe Doctrine," manifests its imperialistic tendency by invading the products of the farm and reaching the metropolis, stealthily enters the mouth of the metropolitan alimentary canal and silently gliding down the current seizes upon and plants large colonies in numerous Peyer's patches.

Tuberculosis—the great white plague—caused by the bacillus tuberculosis, a vegetable parasite, had its first being in the country. Preying on the lower animals only stimulated its ambition for higher conquests; and, transported to the city by the "Milky Way," has made conquest after conquest, until it now holds in its deadly grasp one-seventh of earth's mortals.

Cancer, the cause of which is not definitely determined, is found more frequently in the country than in the city. While I have no statistics to verify this statement, any country doctor of twenty-five year's experience can recall a larger percentage of cancer among his patrons than can the city physician.

Actinomycosis, a disease described in recent years and falsely diagnosed as either cancer or tuberculosis, is caused by a germ or fungus found in straw or chaff. Its growth closely resembles, in its clinical fea-

tures and anatomical locations, sarcoma, and is frequently mistaken for this form of malignant growth. The country doctor should call the attention of farmers to this disease and warn them against the habit of using bits of straw for tooth-picks and chewing straw and chaff when the supply of tobacco has been exhausted.

It is a wellknown fact that the anærobic germ of tetanus lives and flourishes in the rich soil of the country and adhering to the rusty nail that penetrates the tissues, is carried with it into the wound and there begins its deadly work. The essential causes of diphtheria, measles and scarlet fever have a permanent existence in the country and live for years in piles of straw and manure, and many cases of these diseases are easily traceable to these sources. So fruitful is the country in the production of pathogenic germs that it was for the preservation of the human race that man was instinctively led to build cities and dwell therein. Had he not yielded to this impulse, after a few centuries nothing would have remained of his history except the fossil remains of his anatomy. The mobilization of armies in the country, during the recent war with Spain, has been attended with a mortality which in the present state of medical science is inexcusable and when contrasted with the freedom from disease and low mortality attending Gen. Butler's army in New Orleans, during the War of the Rebellion, offers an unanswerable argument in favor of cities and towns for the mobilization of troops. The reason that sanitation in cities and towns contributes so largely to the health of their inhabitants is that the germs of acute, infectious diseases are not indigenous to the city, but are imported from the country where the cause of "the pestilence that walketh in darkness and the destruction that wasteth at noon-day" is hid in its native lair.

It is evident then, that the boasted sanitary measures, devised and put into operation in recent years have been applied at

the wrong end of the line. So long as milk from tuberculous cows and from districts infected with typhoid fever, is conveyed to cities and towns, the number of acute, infectious diseases will not be materially lessened. Science has discovered the test for tuberculosis in cattle, but legislation is needed to enforce more rigidly its application. We must look to the country doctor, so familiar with the subject, to present it properly before the lawmaking power.

What, now, are the qualifications necessary to a country doctor? He should have a fair knowledge of all the medicinal plants that grow in the country so as to know them when he sees them. He should be able, like Solomon, to discourse learnedly on all vegetation "from the cedars of Lebanon to the hyssop that springeth out of the wall." The history of many of our efficient medicines traces their first use as remedies in disease to the natives of the country, who were led to their use either by instinct or by a law of resemblance. Thus the male fern and the pumpkin seed were judged to be efficient remedies for tape-worm because they resembled in shape the parasite. Many of the native plants are now used by the country people as home remedies in the milder forms of diseases and a number of these agents are potent for good or for harm. The country doctor must acquaint himself with their therapeutic action so as to be able to approve or condemn.

Of the domestic animals he should have a fair knowledge. He should acquaint himself with the diseases of the domestic animals and fowls, for it may happen that before the occurrence of a case of diphtheria or scarlet fever in a child he may be called upon to treat, there is a history of a sick cat or chicken nursed in the same room. Many of the acute, infectious diseases are contracted from the domestic animals and fowls. He should be able to give much needed advice as to the location of farm-houses and barns—a subject of which country people have a very imperfect knowledge. Spa-

acious mansions are frequently erected in the country without provision for bath-room within, and proper drainage without.

It is evident from the foregoing that the country doctor is located in "the enemies' country." Is it not likewise apparent that his "alma mater" fails to equip him for meeting all the requirements of the situation? Is it not timely to suggest that to meet this want our medical colleges establish a special chair to educate young men for the practice of medicine in the country?

But if the equipment of the country doctor is not adequate, let him not despair. Many of the physical blessings of mankind have come not from the laboratory but from the observations of the country doctor. Quinine, the specific for malaria, was first employed by the native doctors of Peru, and was as efficient before the plasmodium malarie was discovered by the scientist as it is now. The immortal Jenner by his intimate associations with the maids of the dairy-farm and his close observations, scrutinizing the cow's udder and the maid's hand, noticed that the pustule on the one was like the pustule on the other; and after the process was completed the maid was rendered by it immune to that most loathsome of all diseases; and now after the lapse of almost a century the fact deduced from the country doctor's observations in the barn-yard is taken up by the scientist and he heralds to the world as a new principle, just born, that the introduction into the human organism of an attenuated virus of an acute, infectious disease renders that organism immune to that disease.

The treasure hid in the yet unexplored field of medical science is before us, and let us as country doctors continue to furnish the scientist the key that unlocks its iron-bound receptacle.

Terebenum, U S. P., is a liquid made by the action of sulphuric acid on oil of turpentine. In 5 to 15 drop doses 3 or 4 times a day, it is an excellent remedy for chronic cough. Care must be exercised lest it produce strangury.

CEREBRO-SPINAL MENINGITIS.

BY W. R. HOCKENBERRY, M. D., OF SLIPPERY
ROCK, PA.

On Monday, December 5th, 1898, I was called to the bedside of one of my brothers, a strong healthy young man of thirty years; a farmer by occupation. I found him in the agonies of pain and at once placed him under full doses of opiates.

From the wife, mother, and later the patient, I obtained the following brief history: The previous Saturday evening he had complained of being very tired, weary and sore, having severe occipital and temporal headache; eye-pain; no initial chill or emesis. Up to this date he had enjoyed usual health. On Sunday he did the usual work about the stables, was very lonesome and melancholy the entire day. During the evening and earlier part of the night he was restless; toward morning became racked with pain in head, neck, back, chest and joints. So severe were the paroxysms of pain, that he would cry out that his back was breaking (in lumbar region); that his shoulder and hip joints were being forcibly separated or pulled from their sockets; agonizing headache. Sinapisms and hot applications had been extensively applied, for hours, with good effect.

The paroxysms were not so severe, in the afternoon, when I first saw him, as they had been earlier in the day. Pulse 96, full, regular and bounding; temperature 102.6°; tongue furred, and breath repelling; marked constipation, profuse sweating after each paroxysm, paresis of bladder, tremors, photophobia and great prostration, some retraction of muscles of neck; no delirium or petechie.

Diagnosis: Cerebro-spinal meningitis.

Treatment: Full doses of opiate every two or three hours; quarter grain doses of calomel with ipecac and sodium bicarbonate every half hour until three grains of calomel were taken, followed in one hour with a saline. Quinine in tonic doses. Cold pack

to head. Blistering had already been done quite extensively. Interchangeable diet of milk, soups, buttermilk, toast and wine.

The second day found pulse and temperature unchanged. No pain, except in shoulder joints; head was dull, bowels had not moved and another saline was given.

Complained of muscular soreness, hyperæsthesia. No chills, cough, emesis or delirium as yet.

Third day found patient resting easier. Pulse 84, full and regular; temperature 101.5°; no headache, no pain whatever, except in throat, which was very sore. Examination of throat revealed a congested condition. There was a profuse nasal discharge. Tongue remained coated, bowels moved freely, some sweating, bladder still weak. General appearance of patient better; countenance brighter; eye clear and pupil normal. Patient remarked that were it not for the nausea which the morphine had produced he would be himself again. At this stage of the disease I thought I had been badly frightened when I made my diagnosis. Now I changed from that of cerebro-spinal meningitis to that of a severe attack of influenza. Discontinued opiates, increased the quinine and in addition gave one sixtieth grain of strychnine every five hours. Kept bowels open with calomel, ipecac and sodium bicarbonate. Cold to head; pellets of ice internally.

On the fourth day the patient was restless; had no pain, but had hallucinations. These wanderings were not foreign, but were of home and its surroundings, and were rational—not a conglomeration of ideas. He was not delirious, in the true sense of the word. When awake he was perfectly conscious, but when he would close his eyes and fall into sleep, ideas would be generated with such great rapidity and force as to wake him, and he would say, "I cannot sleep for thinking." I do not think this phenomenon was brought about by the effects or after effects of the opiates. The motor cortical centers were at rest or seem-

ingly so, while the sensory cortical centers were greatly stimulated. Pulse, 100, regular and volume good; temperature 103.5°, sweating; countenance pinched; respiration greatly increased; expiratory act shortened. Examined chest for pneumonitis. Percussion and auscultation revealed but slight change from normal. Raising patient up in bed, that is sitting up in bed, respirations would become normal; on resuming recumbent position respirations would again become rapid.

Fifth day, patient still restless and worried. No pain, but insomnia still present, due to fixed ideas which were preying on his mind. Would ask friends to talk to him so that he might get his mind to rest. The centers of thought seemed to be running an endless chain of ideas with such power of concentration as to frighten him. He was so hypersensitive that the least noise or even whisperings would jar him. I became worried and called Dr. H. D. Hockenberry, of West Sunbury, for counsel. Dr. Hockenberry thought it a severe attack of influenza. Had Dr. Hockenberry see him each day following until the end. Stayed with patient all night; patient rested fairly well.

Sixth day, early in afternoon, without any warning, the patient was suddenly seized with severe paroxysm of pains in the chest, limbs, and had "gastric crises." It became necessary to hold him in bed until a hypodermic injection of morphine and atropine could be administered. In two hours another quarter grain of morphine was given by the mouth. Further doses of morphine were regulated by the respirations, that is, when respirations would become rapid and shallow, and there was the moan of pain, morphine would be given. The time between each dose being about two and a-half to three hours. Gave one-fifth grain calomel every hour. The general appearance of patient rapidly changed. The storm which had been brewing had now burst in all its fury. The eye-balls became bloodshot,

Argyll Robertson pupil; respirations rapid; pulse angry and tumultuous, with throbbing carotids; temperature 104; sweating; some opisthotonus; discharge from nasal cavity ceased. Went back to first diagnosis. Stayed over night with patient, who seemed to be in a stupor; would lie without moving hand or foot, but when spoken to would be rational and conscious of his condition. It seemed to me as though morphine had very little effect on the sensory centers, but its main effect was on motor and the destroying for the time being of co-ordination, for when patient would be motionless and in apparent coma there was the moan of pain, and the consciousness. Insomnia was present from beginning of attack, and was very annoying. When full doses of opiates had to be given to keep patient at rest, did not feel justified in giving any hypnotics such as chloral hydrate or bromides, as nothing short of large doses of these drugs would have produced sleep. Resorted to and relied more on cold pack to head for hypnotic power. Stayed over night with patient, who lay in a stupor; as morning of the seventh day approached the pulse became more angry and tumultuous, pounding 120 times per minute with such force as to shake the patient and bed; the temperature, which had been irregular, began about noon of seventh day to ascend, and rapidly ran up to 107° in axilla. Patient was given cardiac stimulant, stripped and wrapped in woolen blankets, wrung out of cold water, the temperature and pulse being carefully watched until temperature was reduced to 100.5°, after which patient was wrapped in warm dry blankets. During all this time the patient was conscious, and after reduction of the fever rested easier. Three hours later, with Cheyne-Stokes breathing, heart failing, feet extended, fingers flexed on hands, forearms on arms, arms over chest, head drawn back, an honest, busy life ended in the death grip of cerebro-spinal meningitis.

Alcohol is said to counteract the escharotic action of carbolic acid.

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THE X-ELEMENTS IN THE MEDICAL ASPECT OF THE WAR WITH SPAIN.

In spite of the glorious ending of our war with Spain, much adverse criticism of its management has been indulged in on all sides. It is perhaps not strange that a large part of this criticism has been directed toward the medical officers, and always, apparently, without taking underlying causative elements into consideration.

"In time of peace prepare for war," is an adage which all governments accept, but the American government has steadily refused to apply this principle in the preservation of the health of the army and of the people at large. Congress after Congress has refused to make adequate appropriations for the medical department of the Army and Navy and Marine Hospital Service, and accord the officers of these departments deserved standing, as compared with the officers of the fighting contingent. That the medical department lacked sufficient authority was clearly shown during the time of transportation of General Shafter's troops to Santiago. Perfection in the management of the medical affairs pertaining to an army, requires not only liberal means, but previous experience likewise. Is it surprising, therefore, that with these

two elements lacking, the medical service was deficient at the time of the battle of San Juan? Another element that contributed toward the existing conditions of affairs is to be found in the tremendous enthusiasm which actuated and fired the heart of every American combatant—an enthusiasm that cast all precautions of a medical nature to the winds, each soldier having but one end in view, an end that partook closely of the nature of an attempt to right a personal grievance, irrespective of danger, and who may tell but what this impetuosity, in spite of the hardships which it entailed on the wounded, was not the principal means of success and the salvation of the army? Temporary lack of facilities for treating the wounded, and, shortage of medical supplies, was insignificant in comparison with the disaster that would have overtaken the army had the conflict been delayed until yellow fever, and other tropical diseases, should have come to the aid of the enemy.

Another form of criticism has been vented on the management of the campaign, by comparing the deaths in battle and from disease with those of the Civil War, taking as the basis of the argument merely the figures irrespective of conditions and other influences that obtained during the two conflicts. Such comparison gives an unfavorable impression, when figures alone are counted, but when the climatic influences are taken into consideration, when it is remembered that many of the soldiers had never set foot in a tropical country, this fact alone will account to a great extent for the relative high mortality from disease; and when it is further remembered that the enemy was repulsed in every engagement, with a much greater loss in killed than on the part of our own soldiers, another source of error will become manifest. Had the American forces been opposed by an army equally brave, and animated by the same spirit, it is safe to say that the loss in battle would have been swelled to enormous proportions and have eliminated the abnormal

disparity between those who died of their wounds and the victims of disease.

The widespread prevalence of typhoid fever would at first sight appear to indicate the most defective management on the part of the medical officers of the army, but when compared with the annual outbreak of the same disease in large cities, where the best opportunity for the enforcement of sanitary laws exists, it does not lose much by comparison. European powers, by long experience, succeed in escaping some of the results of war such as occurred in the recent conflict, but their history will show that they have passed through similar disasters and have profited by the experience.

K.

THE END OF THE CENTURY PHYSICIAN.

The advent of the "new" physician, armed cap a pie with microscope, stethoscope and various other instruments of precision, with his well digested theories and definite methods of practice, may cause many an old-time practitioner of the healing art to pause by the way and think. Too often the doctors of the "old school" assume an attitude of doubt toward their younger and less experienced brother, viewing with suspicious eye the newfangled apparatus, and predicting ignominious failure if he persist in the attempt to practice medicine along such absurd lines. There are still to be found physicians in all localities who scorn even the clinical thermometer, insisting that their trained touch is quite sufficient and good enough for them; to whom the rumble of a stethoscope and the clear cut, all-revealing field of a microscope are absolutely unexplored regions and the science of bacteriology and the relation of micro-organisms to disease is but a modern myth, to be believed only by the ignorant and inexperienced suckling. Others there are who continually regretting their own limited opportunities and realizing their too evident shortcomings, heartily approve of all the modern scientific methods of research

and precise means of diagnosis, yet still make no effort whatever for various, and perhaps good reasons, to avail themselves of present opportunities. Others still, in the midst of the hurry of busy medical life, by dint of costly sacrifice of time and rest, honestly strive to keep abreast the times of scientific things to meet the latter-day physician on his own grounds, and to stay, where perhaps he has always stood, in the front rank of his profession. These are the men who fill the medical journals with the best and most practical kind of matter, the men whose word is law in things medical, the men who are sought for and honored.

Nothing is more distressing than the sight of a man of trained intellect, systematic method of study, and with an even start in the business of life, allowing himself to be swept aside by the tide of work and worry, and ever finding a lower and still lower level among his associates. In this busy, pushing work-a-day world, where the impulse is ever up and on, "woe to the man who stoops to tie his shoe." We must keep in the rush as part of it and never allow another's shoulder to turn ours. The man who stops working soon begins rusting; the man who stops reading soon stops thinking; and the man who stops thinking—?

It is a comparatively easy matter, after all, to do our day's modicum of labor, but how hopeless is the task when one day is dropped and must be picked up in the after-time. Herein lies the secret of success or failure. Eternal vigilance is not the only price of success, but eternal promptness and eternal honesty in the performance of present duty as well. Armies of men have failed of the great reward by losing sight of or ignorance of just this fundamental truth.

For the man who starts to-day with his well-earned and ample store of practical knowledge there is nothing ahead but to maintain his position and go forward as necessity demands and opportunity affords. For the man who is filled with honest de-

sire for "better things," and is willing to pay the price, is set the hope of ultimate accomplishment and the all-satisfying reward of duty done. Certain accomplishments are expected of the modern medical man, and once he realizes his deficiencies and is willing to remedy them, half the battle is won. Every general practitioner should have a working knowledge at least of the modern instruments of precision. He should be able to make an intelligent search for the tubercle bacillus and the plasmodium malariae, and state whether or not they are present. He should be able to make an examination of the blood, not only for diagnostic purposes, but for noting the progress of his cases from time to time, and to adapt intelligent and scientific treatment accordingly. Perhaps too much stress cannot be laid upon this point; many of the most serious blood diseases the physician has to deal with can be positively diagnosed only by use of the microscope, and the only means he has of determining the results of his treatment is by repeating his examination at proper periods. The process is not nearly so formidable as it may sound, nor is the outfit required anything like as expensive as the so-called "model outfits," so largely advertised, and which are quite beyond the reach financially of many practitioners who should be so equipped and who can really afford to be were they but properly informed on the subject. Of the special blood instruments there are now patterns on the market at a price within the reach of almost the most poverty stricken. Again, he should be able to make a careful and complete examination of the urine. No practitioner of any experience whatever can help feeling the tremendous importance of this method of diagnosis, and yet it is appalling how few physicians there are who make such examinations as part of their systematic work, or who are able to really examine a specimen and pass an intelligent and positive opinion. True, it is not esthetic work, but there are many other things

that the duty of the physician demands of him that are not done for pleasure.

Again, he should be able to use a stomach tube and use it well. No man is really fitted to treat gastric conditions unless he has conquered the technique of the simple, yet vastly important, operation of washing out the stomach, and is able to critically examine the stomach contents when he does succeed in securing them. Many a grateful patient sings the praises of his physician whose skill in this line has brought relief. This, too, is not "nice" work, but it is neither thankless nor profitless.

The electric battery, the ophthalmoscope, etc., have long since made their places as instruments of precision, but are hardly to be urged among the absolute necessities as are the others. They are invaluable aids to him who makes them his servants in certain lines of specialism.

The physician thus equipped is practically fitted to cope with all ordinary as well as some extraordinary conditions and may go on his way calm in the confidence that he is doing good work out of a sincere desire to benefit his fellowmen, regardless of the sacrifice to himself. He is "serving his generation."

It was the custom of a famous teacher of medicine to make this remark to the graduating class: "Men, never be content with being able to say in any case, 'I have done all I can do.' Strive to be able to say, 'I have done all any man can do.'" With such a standard in view, and with honest effort to even approximate the ideal, how soon would the medical man be the tremendous power he has the right to be?

H. C. W.

EDITORIAL NOTES.

SOCIETY NOTES.

The Phoenixville Medical Association was organized at Phoenixville, Chester county, on February 1, when the following officers were elected: President, Dr. F. D. Emack; vice-presidents, Drs. W. B. Wynne and

George Unstad; secretary, Dr. E. J. Haddfield. The association begins with fourteen members.

The following officers of the Philadelphia Pediatric Society were elected on January 10: President, Dr. Edwin E. Graham; vice-presidents, Drs. Alfred Stengel, D. J. Miller and T. S. Wescott; secretary, Dr. Alfred Hand, Jr.; treasurer, Dr. H. B. Carpenter; recorder, Dr. D. L. Edsall; executive committee, Drs. Samuel M. Hamill, J. P. C. Griffiths, Frederick A. Packard, John H. Jopson and George Woodward.

The Medical Club of Philadelphia, at its annual meeting held on January 12, elected the following officers: President, Dr. James M. Anders; first vice-president, Dr. Chas. W. Burr; second vice-president, Dr. George E. de Schweinitz; secretary, Dr. Guy Hinsdale; treasurer, Dr. John H. Lock; members of the executive committee, Drs. Ernest LaPlace, H. Augustus Wilson, G. G. Davis and Wilmer Krusen.

The Berks County Medical Society held its annual meeting at Reading on January 10. Officers for the ensuing year were elected as follows: President, Dr. A. A. Stamm, Mohn's Store; vice presidents, Drs. J. Y. Hoffman and F. W. Frankhauser, Reading; corresponding secretary, Dr. S. B. Taylor, Reading; treasurer, Dr. A. S. Raudenbush, Reading; censors, Drs. Daniel Longaker and J. K. Seaman, Reading, and George G. Wenrich, Wernersville; curator, Dr. J. L. Wethered, Reading; delegates to the American Medical Association, Drs. William S. Buehler, Wernersville; A. A. Stamm, Mohn's Store; J. Y. Hoffman, F.W. Frankhauser, Israel Cleaver and A. F. East, Reading. A banquet was held in the evening when addresses were made by Drs. J. Y. Hoffman, George M. Gould and others.

The annual meeting of the Montgomery County Medical Society was held at Norris-

town on January 18, when the following officers were elected for the ensuing year: President, Dr. D. H. Bergey, Philadelphia; vice-presidents, Drs. P. A. Corson, Plymouth, and H. A. Arnold, Ardmore; recording secretary, Dr. H. H. Whitcomb, Norristown; corresponding secretary, Dr. J. K. Weaver, Norristown; treasurer, Dr. S. N. Wiley, Norristown; censors, Drs. C. H. Mann, Bridgeport; S. L. Slifer, North Wales, and E. S. Kreibel, Worcester; delegates to the American Medical Association, Drs. S. L. Slifer, North Wales; H. A. Arnold, Ardmore; S. W. Stiles, Conshohocken; H. H. Whitcomb, J. K. Weaver and J. O. Knipe, Norristown; delegates to the State Medical Society, Drs. Clarence F. Ferris, Narberth; E. M. Corson, Norristown; E. S. Kreibel, Worcester; S. N. Wiley, J. J. Kane, A. H. Read, Norristown; J. W. Groff, Harleysville; D. H. Bergey, Philadelphia, J. E. Egbert, Wayne, and J. N. Hunsberger, Skipack.

D. W. N.

POSTPONEMENT OF THE ELECTION OF A NEW EDITOR OF THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

At a meeting of the trustees of the American Medical Association, January 2d, it was decided to postpone the election of an editor of the *Journal* until some future meeting. During the interim, Dr. Truman W. Miller, of Chicago, chairman of the Publication Committee, will direct the affairs of the *Journal*.

K.

SENNA LEAVES FOR CHRONIC CONSTIPATION.

Dr. Barton Dozier advises the use of senna leaves (*Medical Record*, February 4) for chronic constipation. He recommends that the patient eat, just before going to bed, from one to several dozen senna leaves, and claims that his method of administering the well known remedy is not at all unpleasant and very effective. The number of leaves required can soon be learned by experience.

K.

POTTER COUNTY MEDICAL SOCIETY.

The Potter County Medical Society closed its first year with a good meeting at Coudersport, January 10th. Three new members were elected, giving them a membership now of fifteen.

Dr. I. R. Schoonmaker, of Sayre, Bradford County, addressed the society on "Influenza," and he is reported as having given them an opportune and practical address.

C. L. S.

RESULT OF THE DECEMBER EXAMINATION OF THE
BOARD OF MEDICAL EXAMINERS REPRESENTING THE MEDICAL SOCIETY
OF THE STATE OF PENNSYLVANIA.

At the session of the Board of Medical Examiners representing the Medical Society of the State of Pennsylvania, December 12, 13, 14 and 15, 1898, at Philadelphia, 103 candidates presented themselves for examination. Two withdrew on account of illness; two were expelled for copying; one expelled for drunkenness. Twenty-nine failed. Of the whole number sixty-nine were found to be properly qualified and were granted certificates. The successful candidates thus represented almost exactly two-thirds of the whole number applying.

W. S. F.

CUMBERLAND COUNTY SOCIETY.

The annual meeting of the Cumberland County Medical Society was held in Carlisle, January 10th. Dr. C. C. Hummel, of Mechanicsburg, the retiring president, gave the annual address. Several other interesting papers were read, and in the evening Dr. Joseph Price, of Philadelphia, addressed the society on "Gynecological Disturbances Requiring Surgical Interference: Diagnosis and Method." After this came the banquet at Hotel Wellington. The following toasts were on the menu card: "Our Guests," Dr. J. C. Davis; "The Physician," Dr. P. R. Koons; "The Physician of the Old School," Dr. W. G. Stewart; "The Roses of the Profession," Dr. J. J. Koser; "The Thorns and Thistles of the Profes-

sion," Dr. Thomas Stewart; "The Physician's Wife," Dr. J. E. Van Camp.

C. L. S.

A CASE OF MALTA FEVER IN PHILADELPHIA.

A case of Malta fever was recently discovered in Philadelphia, and reported at a meeting of the Pathological Society of Philadelphia, by Drs. Musser and Sailer. It is the first recorded case of this disease in the United States, and occurred in an army officer, who had been with the army of invasion in Porto Rico, where it is believed he contracted the disease. The micrococcus militensis is recognized as the cause of the disease, but the method of infection is unknown. Cultures of this bacterium obtained from the government laboratory, yielded the characteristic agglutinative reaction when subjected to the action of blood obtained from the patient, but were not affected by normal blood, or blood from a typhoid fever patient.

K.

A COMMON ERROR IN PRESCRIBING POTASSIUM IODIDE.

The best method of administering potassium iodide is doubtless in the form of an aqueous solution, in which one drop represents, approximately, one grain of the salt. To prescribe the two, ounce for ounce, results in a solution measuring eleven fluid drachms, and one drop of this necessarily contains considerably less than one grain of the iodide. To overcome this, Professor Hynson, quoted in *The Bulletin of Pharmacy*, makes the following suggestion: Dissolve 480 grains of salt in five and one-half drachms of hot water, and then make up the solution to eight drachms with water. This always results in a solution representing one grain in each minim, and, approximately, in each drop.

Administered in this form, in gradually increased doses, the severer symptoms of iodism may always be prevented; nor is the concentration of the solution a contra-indication against the addition of corrosive sublimate, should it be desired to administer

the mercury in the form of the biniodide or the "mixed treatment" for syphilis. K.

THE ANNUAL RECEPTION OF THE ALLEGHENY COUNTY MEDICAL SOCIETY.

The annual reception of the Allegheny County Medical Society, in honor of the outgoing and incoming presidents, Drs. G. W. McNeil and J. A. Lippincott, respectively, was held February 2d, at the Schenley Hotel, Pittsburg. Dr. James T. Whitaker, of Cincinnati, was the special guest of the evening. His address on "Arterio-Sclerosis," found on the first page of this issue, combined intellectual and scientific qualities rarely associated. No one within the sound of his voice but what had his conception of this most interesting subject broadened and made more clear in all of its wonderfully diversified bearings. Dr. Wm. H. Daly, one of the oldest members of the society, and late of the U. S. Army, related entertaining experiences, mainly non-medical, of the Spanish-American war. His position on the subject of the beef controversy was, on motion, unanimously endorsed by the society. K.

RESOLUTIONS ON THE DEATH OF DR. THOMAS W. SHAW.

The Allegheny County Medical Society, at a special meeting, adopted unanimously the following resolutions upon the death of Dr. Thomas W. Shaw:

Whereas, In the course of human events Dr. Thomas W. Shaw, one of the members and a founder of the Allegheny County Medical Society, has been removed by death from his useful sphere of work, and we, the members of the Allegheny County Medical Society, have been deprived of his fellowship.

Resolved, That we are deeply grieved over the death of Dr. Shaw, and that this society has lost one of its most useful, popular and able members.

Resolved, That we can attest to the high character of Dr. Shaw as a man and as a physician, and that, therefore, the profes-

sion of this city has lost one of its brightest lights and the community one of its first citizens and one of its ablest defenders against disease.

Resolved, That the family of deceased, and especially his son, Dr. Charles S. Shaw, has our warmest sympathy in their affliction.

Resolved, That a copy of these resolutions be engrossed upon the minutes of this society, a copy forwarded to the family of deceased and a copy furnished the press for publication.

J. M. Douthett, Sec.

DEATH OF DR. WRAY GRAYSON.

Dr. Wray Grayson, one of Washington's oldest and most prominent physicians, died Thursday, February 2, 1899, at Orlando, Florida, where he had gone with the hope of improving his health, which had been impaired for some time. The immediate cause of his death was chronic laryngitis, from which he suffered for about two years. Dr. Grayson was a native of Washington, being born in 1826. After taking the regular course was graduated from Washington College in the class of 1846.

After graduation he studied medicine with Dr. James Stevens, and afterwards entered Jefferson Medical College, from which he graduated in 1853.

For some years he was engaged in hospital practice at the Northern Ohio Lunatic Asylum, at Newberry, and later at the Dixmont asylum in Allegheny County.

The greater part of his life was spent in his native town where he enjoyed a large and lucrative practice. In 1877 he was married to Margaret Hazlett, of Washington. Dr. Grayson was held in high esteem by all with whom he came in contact. Being well informed and always a careful student of all the best literature of the day, gave to him a high position in the estimation of his professional colleagues.

As a leader in his home medical society he was ever on the alert to develop the interest of others in the same work; most of

all was he anxious to maintain a high ethical standing of all its members.

He was also a member of the State Medical Society and of the American Medical Association.

J. A. McKean, Sec.

REPORT OF THE PROCEEDINGS OF THE HARRISBURG ACADEMY OF MEDICINE.

At the January meeting, the exercises in the hall of the Academy were opened by the presentation and explanation of a most marked case of complete extrophy of the bladder with epispadias, by Dr. Kunkle.

The yearly reports of committees were of an encouraging nature; substantial additions being made to the library and museum, and fine portraits of Prof. George Dock, deceased, the father of Prof. Dock of the University of Michigan; and of Dr. John Curwen for thirty years superintendent of the State Insane Hospital at Harrisburg, but now holding a similar position at Warren, having been placed upon the walls during the year.

The annual election resulted in the choice of the following officers: Dr. C. A. Rahter, president; Dr. H. B. Walter, 1st vice-president; Dr. W. H. Seibert, 2d vice-president; Dr. J. Landis Seitz, secretary; Dr. J. Z. Gerhard, treasurer; Dr. Thos. S. Blair, editor; Drs. C. E. L. Keene, C. M. Rickert and Thos. S. Blair, members on standing committees on admissions, library and social and scientific business respectively.

Drs. Egle and James conducted the newly elected president to the chair, who made a graceful speech upon assuming the place.

The address of the retiring president, Dr. Fred'k W. Coover, was listened to with marked attention. The speaker dwelt upon the broadening of the medical mind demanded by the public, the necessity of taking measures to properly instruct midwives practicing so largely among the poor, the non-appreciation of medical opinions before legislative bodies and the courts, the distribution of medical charity and the rendering lighter of the financial woes of young practitioners, the abuse of alcohol in the

routine of practice, the utility of medical reading clubs, and the urgent necessity of larger appropriations for the care of the state's insane.

Several votes of thanks were passed and gifts presented, notable among which was the addition to the library of "Wood's Twentieth Century Practice," and the series entitled "Masters of Medicine," the gifts of Drs. Rahter and Egle.

Upon descending to the reading rooms and library, the members found quite a transformation; Dr. E. H. Coover having quietly embellished the walls of the library with two sumptuous oil paintings executed to his order, and Dr. Fred'k W. Coover assuming the duties of host, and turning the reading rooms over to a caterer who executed his trust so well that all vowed the retiring president a prime good fellow, and departed with the wish that he be representative of an illustrious line.

T. S. B.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

The Semi-Centennial Celebration in Honor of the Fiftieth Anniversary of its Organization.

The semi-centennial of the formation of the Philadelphia County Medical Society was celebrated with appropriate exercises on January 14, 15 and 16. The three days' celebration was begun on the evening of the 14th by an address by Dr. J. Chalmers Da Costa, in the hall of the College of Physicians. Dr. Da Costa's address was historical in character and referred to those who had taken part in the organization of the society, and to the changes that had taken place in the fifty years that had gone by since that first meeting.

On Sunday evening, January 15, a sermon was delivered before the society in the First Baptist Church, by Rev. Dr. Kerr Boyce Tupper, who took for his text, "Luke, the beloved physician, greets you."

The celebration closed on Monday evening, January 16, by a banquet in Horticultural Hall, which was attended by about 350 members and guests. In the absence of the

president, Dr. Edward Jackson, the first vice president, Dr. S. Solis Cohen, presided. Dr. Cohen in extending a welcome to the celebration told of what the society had accomplished and paid a high tribute to its founders. He said if a roll of the organization were to be called there would be sound names of men who had made themselves and the society known throughout the world.

Dr. John B. Roberts read a letter from Dr. Alfred Stille, the only surviving member of the fourteen founders of the society. Dr. Stille briefly sketched the origin and use of the society and concluded his interesting letter with this toast: "The Philadelphia County Medical Society, the offspring of eminent ancestors, the fairer daughter of a fair mother, may she emulate her fore-runners and rivals in the science and art of medicine and in the moral qualities without which all science is vain."

Dr. W. W. Keen then responded to the toast, "The Philadelphia County Medical Society." Talcott Williams, Esq., spoke of "The Newspaper." The other toasts on the programme were: "The Medical Journal," by Daniel Baugh, Esq; "The Profession's Care of the Needy," by Rev. Dr. Kerr Boyce Tupper; "The National Medical Services," by Surgeon-General Walter Wyman, of the Marine Hospital Service; "The Clergy," by Rev. Dr. Charles Wadsworth, Jr.; "Law," by Hon. James M. Beck; "Medical Education—the Safeguard of the Citizen," by Charles C. Harrison, Esq.; "Medical Society of the State of Pennsylvania," by Dr. W. Murray Weidman.

The committee in charge of the semi-centennial celebration was Dr. William M. Welch, chairman; Dr. W. W. Keen, Dr. James Tyson, Dr. W. B. Atkinson, Dr. George M. Gould, Dr. A. H. Cleveland and Dr. John B. Roberts. D. W. N.

Thymol, U. S. P., is a crystalline phenol soluble in 1200 parts of water but very soluble in alcohol, ether and chloroform. It is a good intestinal antiseptic in pill form, in 2 to 3 grain doses. A watery solution makes a good mouth wash.

Reviews.

HISTOLOGY, NORMAL AND MORBID. By Edward K. Dunham, M.D., Professor of General Pathology, Bacteriology, and Hygiene, in the University and Bellevue Hospital Medical College, New York. In one octavo volume of 448 pages, with 363 Illustrations. Cloth, \$3.25 net. Lea Brothers & Co., Publishers. Philadelphia and New York. 1898.

This work, although comparatively small in size, will yet be found of sufficient comprehensiveness to include all matters essential. The author has devoted the major portion of the space to normal histology, having dealt merely with the more important prevalent pathological processes. The subjects are presented in a way that will appeal to the student, being very concise and clear. The grouping of the two subjects in this compact form, in one volume has some advantages, especially when the bearing of the one upon the other is taken into consideration. The numerous illustrations add greatly to the general merits of the work.

W. J. M.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M.D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators and Correspondents, Illustrated with Chromo-Lithographs, Engravings and Maps. Volume II. Philadelphia, New York and Chicago: The F. A. Davis Company, Publishers. 1899.

In this volume the regular plan of the work as regards elaboration, has been fully inaugurated. The same general arrangement is adhered to, as in the first volume. The articles are comprehensive enough for the scope of the work, but it yet remains to be seen, if all subjects of importance can be included in the work as projected. Cocainomania is a comparatively new subject and the article on it contains many new observations. Fatal terminations from extensive burns are now considered the result of absorption of the toxic ptomaines of the burned tissues. As a result of this conclusion antiseptics will enter more extensively into the treatment.

Much additional light is thrown on the etiology of obscure cases of constipation. Lesions in the ilio-cæcal region, sigmoid flexure and rectum as well as auto-intoxications receive due consideration. Nothing is added to our scanty knowledge of cerebral localization and diagnosis of cerebral abscess. If the future volumes are as broad, clear and scientific as the first and second, the value of the work will far exceed any previous effort of the editor along this line.

E. B. B.

A CLINICAL TEXT BOOK OF MEDICAL DIAGNOSIS FOR PHYSICIANS AND STUDENTS. Based on the most recent meth-

ods of examination. By Oswald Vierordt, M.D., Professor of Medicine at the University of Heidelberg, etc. Authorized Translation with Additions. By Francis H. Stuart, A.M., M.D., Ex-President Brooklyn Pathological Society; Obstetrician to the Brooklyn Hospital, etc. Fourth American Edition, from the Fifth German. Revised and Enlarged with 194 Illustrations. Price, Cloth, \$4.00 net. Sheep or Half Morocco, \$5.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

In the arrangement of this work parts I. and II. take up the general examination of the patient. Part III. takes up the special examinations of the respiratory, circulatory, digestive, genito-urinary apparatus and the nervous system. The index is a most satisfactory one for reference. This edition has been enlarged mainly by a thorough revision and the addition of new matter on gastric digestion and special examination of the nervous system. The application of the Röntgen ray in internal medicine has been omitted. In other respects this addition is well abreast with real progress in medical diagnosis. The work is systematically arranged and outlined. Its charts and illustrations are of a high order. The chemical laboratory, microscope and all ordinary instruments of precision have been used to aid the senses in the discrimination of diseases. The author, the translator and the publisher are to be congratulated on the preparation of this work. This treatise may be regarded as a conservative, clear and concise exposition of our present knowledge of medical diagnosis and can be conscientiously recommended to the student, the general practitioner and to the specialist as a standard authority on this important subject.

E. B. B.

HUMAN ANATOMY. A COMPLETE SYSTEMATIC TREATISE. By various Authors. Including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M. A., and M. B., London. Senior Surgeon to the Middlesex Hospital; Examiner in Surgery in the University of London, etc. Illustrated by 790 Wood Cuts, the greater part of which are Original and Made Especially for this Work by Special Artists. Over 200 Printed in Colors. Second Edition, Revised and Enlarged. Price, \$6.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

The acquisition of a knowledge of anatomy is practically the first step in the study of medicine, and because of this fact it is perhaps the most difficult branch to master. To have the subject presented in the easiest and most assimilable manner is thus a prime consideration. These indications will be found admirably fulfilled in the textbook under consideration.

Mr. Morris has aimed to make the work a complete description of the human body as studied in the dissecting room. He has, moreover, associated with him a group of other authors who

evidence the closest acquaintance with their various subjects. Several new sections have been added to this second edition, among others a very pithy section on the skin, by Dr. Anderson, and another on vestigial and abnormal structures, by Dr. Robinson.

The value of illustrations in the study of anatomy will be generally conceded. This feature is one of more than ordinary prominence in this work, and the style and finish of the illustrations leave little to be desired. This is especially true of the colored plates in which great care has been taken with regard to details, a point often overlooked in other works on this subject. Another commendable feature is to be found in the different style of print in the description of the illustrations, that is, the muscles, nerves, bloodvessels, etc., are indicated in different styles of type. The reading matter is equally well arranged and the work, consequently, is in every way satisfactory and second to none on the subject of anatomy. W. J. M.

NEW BOOKS.

Fever-Nursing: Designed for the Use of Professional and Other Nurses, and Especially as a Text-Book for Nurses in Training. By J. C. Wilson, M.D., Visiting Physician to the Hospital of the Jefferson College and the Pennsylvania Hospital; etc. Third Edition, Revised and Enlarged. Price, \$1.00. Philadelphia: J. B. Lippincott Company. London: 36 Southampton Street, Strand.

A Treatise on Fractures and Dislocations. For Practitioners and Students. By Lewis A. Stimson, B.A., M.D., Professor of Surgery in Cornell University Medical College, New York. In one octavo volume of 823 pages, with 321 engravings and 20 full-page plates. Cloth, \$5.00 net. Leather, \$6.00 net. Just ready. Lea Brothers & Company, Philadelphia and New York.

A Compend of Human Physiology. Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College, etc. Ninth Edition, Revised and Enlarged. With New Illustrations and a Table of Physiologic Constants. Price, .80. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

Transactions of the Luzerne County Medical Society for the Year Ending December 31, 1898. Volume VI. Organized March, 1861. Wilkes-Barre, Pa. E. B. Yordy & Co., Printers. 1898.

Manual of Clinical Chemistry. By Elias H. Bartley, B.S., M.D., Professor of Chemistry and Toxicology in the Long Island College Hospital; etc. Thirty-three Illustrations. Price \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

MEDICAL EXAMINING BOARDS OF PENNSYLVANIA.

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List of Questions Submitted by the Examining
Board Representing the State Medical
Society in December, 1898.

ANATOMY.

1. Outline a healthy liver in the erect posture of the body.
2. Name three ganglia connected with the fifth pair of nerves.
3. Describe the prostate gland, and give its position and blood supply.
4. Give the origin and insertion of the pectoralis major muscle.
5. Give the distribution of the radial nerve below the wrist.
6. Describe the hip-joint.
7. Describe the ureters and give their location and point of entrance into the bladder.
8. Describe the trachea and bronchi, and give their nerve supply.
9. What is the linea alba, and how is it formed?
10. Describe the sphincter ani.

THERAPEUTICS.

1. State the changes in the pulse, and how produced, by the administration of digitalis and veratrum viride.
2. In the treatment of syphilitic node or gumma; state which should be used, a mercurial or an iodide, and give the reason therefor.
3. Give the reasons which would determine the employment of a vegetable or a mineral astringent in acute inflammatory conditions.
4. Differentiate the conditions in which opium and hyoscyne should be used to produce sleep.
5. State when calomel, or podophyllum should be given, and give the reasons for the selection.

PRACTICE.

1. Give the characteristic appearances, and state the time of the eruption in the exanthematous fevers.
2. State the symptoms, dietetic and medicinal treatment of acute ileo-colitis.

3. Enumerate the symptoms of simple spasmodic laryngitis, and give plan of treatment.

4. Give the symptoms and prognosis of chronic transverse myelitis, (lumbar).

5. Give the symptoms and prophylactic treatment of cholelithiasis.

PHYSIOLOGY.

1. Give the physiology of the secretion of the pancreatic juice, detailing the function of each histological element concerned.

2. Describe the mechanical and chemical phenomena of respiration, and give its rate at different ages.

3. Describe the circulation of the blood in the infant, just before and just after birth.

4. What is the relation of the capillaries to the circulatory system?

5. Minutely explain the glycogenic function of the liver.

PATHOLOGY.

1. Name each coat involved and detail the changes occurring therein, in the development of sacculated aortic aneurism.

2. Describe inflammation in serous membranes.

3. Describe the post-mortem appearances in endocarditis.

4. What is the essential difference between calcification and ossification?

5. Designate which component part of the spinal cord is involved in locomotor ataxia and describe the metamorphosis of structure characterizing the pathological process.

SURGERY.

1. Describe the symptoms and treatment of acute suppurative osteo-myelitis.

2. Describe the technique for an operation on the brain.

3. Differentiate recto-anal neoplasma from hemorrhoidal tumors and procidentia recti.

4. Give symptoms, prognosis, and surgical treatment of intussusception.

5. Give concisely the symptoms, dangers and treatment of a fractured rib.

6. Name the different varieties of wounds and give the general indications for treatment.

7. Describe the preparation and operative procedure for aneurism of the upper third of the femoral artery.

8. Describe the ligation of the radial artery at its lower third.

9. Describe and give the treatment for a vesico-vaginal fistula.

10. Describe and give surgical treatment for fissure of the anus.

OBSTETRICS.

1. What methods and precautions would you employ in the induction of premature labor?
2. Define, diagnosticate and give treatment of ectopic gestation.
3. In what abnormal conditions of the pregnant woman may embryotomy be employed?
4. What is the "bag of waters" and how is it formed?
5. Define abortion and state three of its possible causes.
6. What are the causes of post-partum hemorrhage?
7. How would you diagnose and deliver an occiput in the hollow of the sacrum?
8. How would you diagnose, and what is the mechanism of labor in the left mento-iliac anterior position?
9. Give the etiology, premonitory symptoms, clinical phenomena and treatment of eclampsia.
10. What is the ordinary course of twin labor, and what are the difficulties likely to occur?

MATERIA MEDICA.

1. Name three drugs incompatible with belladonna and two incompatible with pilocarpine.
2. Give the usual dose of creasote and tell how it is best administered.
3. Name four official pills and give the principal ingredients of each.
4. Define tinctures, extracts and ointments and tell as a rule how many drops of a tincture are in a fluid dram.
5. Write a complete prescription, containing at least three drugs, for acute bronchitis in an adult. Use no abbreviations.

CHEMISTRY.

1. Describe the chemical changes in the blood in its passages through the lungs.
2. Give a distinguishing test for lactic acid in the gastric juice.
3. Describe boric acid and state its uses.
4. Describe a test for organic matter in water.
5. How would you detect albumin in the urine and how differentiate it from urates and phosphates?

DIAGNOSIS.

1. Differentiate neuritis from myalgia.
2. Describe the symptoms of yellow fever.
3. Give the diagnosis of gastric ulcer.
4. Give the symptoms resulting from paralysis of the phrenic nerve.
5. Differentiate acute bronchitis from croupous pneumonia.

HYGIENE.

1. Name the kinds of food and the quality of each for the daily use of a normal man.
2. What do you understand by the "dry earth system" as applied to excrementitious matter?
3. What is the best method of disposing of the bodies of those who have died of yellow fever.
4. Describe the several methods of purifying drinking water.
5. State the results to animal life, of the combustion of fuel in a room without chimney connection, or other ventilation.

Monthly Reports of County Societies.

PROGRAM OF MEETINGS OF THE BRADFORD COUNTY MEDICAL SOCIETY FOR 1899.

Meeting are held the second Tuesday of each month, and excepting the ones in August and October, will be in the basement of the Court House, Towanda. Quarterly meetings to have two sessions each, at 11 a. m. and 1 p. m. All regular meetings to be called to order promptly at 1 p. m.

The reporting of cases, with or without the presentation of the patient, is in order at all meetings.

OFFICERS.

President L. B. Dennison, Sayre.
1st V. Prest. ... W. F. Harshbarger, New Albany.
2nd V. Prest. ... Francis Chaffee, Towanda.
Secretary S. M. Woodburn, Towanda.
Treasurer F. G. Newton, Towanda.
Librarian E. D. Payne, Towanda.
Censors S. M. Woodburn, Towanda.
 C. H. Ott, Sayre.
 G. C. Holcomb, Ulster.
 Chas. K. Ladd, Towanda.
 C. L. Stevens, Athens.

PROGRAM FOR 1899.

February 14. "Influenza," by Dr. I. R. Schoonmaker, Sayre. "The Treatment of Pneumonia," by Dr. E. D. Payne, Towanda. Discussion of the papers and of the Relation of Influenza to Pneumonia, led by Dr. C. K. Ladd, Towanda.

March 14. "Anesthetics During Labor," by Dr. Charles Reed, Wysox. Discussion led by Dr. Guy C. Holcomb, Ulster. "Some

Surgical Cases Occurring in Private Practice," by Dr. S. M. Woodburn, Towanda. Discussion led by Dr. E. D. Payne, Towanda.

April 11. Quarterly business meeting at 11 a. m. Election of delegates. "The Importance of Early Operation for Tuberculosis of Bones and Joints," by Dr. C. H. Ott, Sayre. "The Prevention of Tuberculosis," by Dr. G. H. B. Terry, Wyalusing. "The Treatment of Pulmonary Tuberculosis," by Dr. C. K. Ladd, Towanda. Discussion led by Dr. M. C. Hunter, Sayre.

May 9. "Some Diseases of the Nervous System," by Dr. G. W. Durga, LeRaysville. Discussion led by Dr. E. A. Everitt, Burlington. "The Uric Acid Diathesis," by Dr. Francis Chaffee, Towanda. "Treatment of Acute Rheumatism," by Dr. F. A. Thompson, Durell. "Treatment of Chronic Rheumatism," by Dr. J. E. Everitt, Franklindale. Discussion led by Dr. E. R. Park, Warren Center.

June 13. Reports from delegates. "Clinic in Diseases of the Nervous System," by Prof. John K. Mitchell, Philadelphia. Members are requested to furnish clinical material.

July 11. Quarterly business meeting at 11 a. m. "Headache as a symptom of Eye Diseases," by Dr. C. L. Stevens, Athens. "Headache as a Symptom of Renal Diseases," by Dr. J. W. Chamberlain, Wyalusing. "Headache as a Symptom of Diseases of the Alimentary Canal," by Dr. A. S. Blair, Ulster. "Headache as a Symptom of Uterine and Ovarian Diseases," by Dr. I. R. Schoonmaker, Sayre. Discussion led by Dr. T. B. Johnson, Towanda.

August 8. At Mountain Lake. Ladies invited. "The Importance of a County Medical Society to the Physicians and the Community," by Dr. S. M. Woodburn, Towanda. "The Relations of Physicians, Inter se," by Dr. C. H. Ott, Sayre. Discussion led by Dr. E. G. Tracy, Troy.

September 12. "Diagnosis of Typhoid Fever," by Dr. E. A. Everitt, Burlington.

"Diagnosis of Eruptive Fevers," by Dr. I. R. Schoonmaker, Sayre. "Treatment of Eruptive Fevers," by Dr. W. F. Randall, Dushore. "Sequelæ of Eruptive Fevers," by Dr. W. F. Harshbarger, New Albany. Discussion led by Dr. Volney Homet, Wyalusing.

October 10. At Sayre. Quarterly business meeting at the Wilber House Parlors at 11 a. m. The afternoon session will consist of a Clinic in Skin Diseases, at the Packer Hospital, by Prof. John V. Shoemaker, Philadelphia. Members are requested to furnish clinical material.

November 14. "The Treatment of Sprains and Contusions," by Dr. A. J. Bird, Overton. Discussion led by Dr. F. A. Thompson, Durell. "The Causes and Prevention of Constipation," by Dr. M. E. Hermann, Dushore. "The Results of Constipation," by Dr. E. D. Payne, Towanda. "The Treatment of Constipation," by Dr. C. L. Kenyon, Monroeton. Discussion led by Dr. G. H. B. Terry, Wyalusing.

December 12. "The Diagnosis and Treatment of Diphtheria," by Dr. Geo. B. Taylor, Towanda. Discussion led by Dr. Wm. F. Randall, Dushore. "The Care and Repair of the Female Perineum," by Dr. D. W. Sturdevant, Laceyville. Discussion led by Dr. S. W. Badger, Athens. "Infantile Scurvy," by Dr. M. C. Hunter, Sayre. Discussion led by Dr. C. L. Stevens, Athens. Appointment of Nominating Committee.

January 9, 1900. Censors, secretary and treasurer meet at 11 a. m. to audit books and accounts. Reports of secretary, treasurer, librarian and censors. Election of officers. Address of retiring president.

Article V of Constitution.

Section 1. The initiation fee shall be one dollar, plus twenty-five cents for each remaining full month of the year, the whole to be paid in advance and to cover all charges for the year.

Section 2. The annual dues shall be two dollars, payable in advance. Any member

having been assigned a part on the program, who shall fail to take part as assigned at least once during the year, shall at the end of the year be fined one dollar. A member being necessarily detained from attending the meeting in which he is to take part, but sending his paper to be read, shall be exempt from said fine.

*C. L. Stevens,
S. M. Woodburn,
J. W. Chamberlain.
Committee.*

PROGRAM OF THE HUNTINGDON COUNTY MEDICAL SOCIETY, 1899.

OFFICERS.

President	Dr. D. P. Miller.
V. President . . .	Dr. S. L. M. Snyder.
Secretary	Dr. A. B. Brumbaugh.
Treasurer	Dr. G. G. Harman.
Censors	Dr. J. C. Stever.
	Dr. Thomas Tobin.
	Dr. R. Myers.
Legis. Com. . . .	Dr. G. G. Harman,
	Dr. J. C. Stever.
	Dr. Thomas Tobin.
Program Com. . .	Dr. G. G. Harman.
	Dr. R. Myers.
	Dr. C. W. Banks.

Regular Sessions held on the Second Tuesday of January, April, July and October, and called to order promptly at 1 o'clock p. m., in the Arbitration Room, at the Court House, in Huntingdon, excepting the meeting for July, which may be held at some point in the county.

The report of cases in practice with or without presentation of the patient, is in order at all meetings.

Membership dues \$2 per year, which includes the *Journal* of the State Medical Society.

April 11. Report of Officers and Committees. Election of Delegates to the State and American Medical Associations. Paper on "Lacerations of the Cervix Uteri and Perineum," by Dr. J. C. Stever, Three Springs. Discussion led by Dr. R. Myers, Huntingdon. Paper on "Metritis," by Dr. Charles Campbell, Petersburg. Discussion led by Dr. M. R. Evans, Huntingdon.

July 11. Meeting to be held at——— (place to be agreed upon at April meeting.) Report of delegates. Paper on "Cholera Infantum," by Dr. Charles A. Harnish, Alexandria. Discussion led by Dr. G. G. Harman, Huntingdon. Paper on "Infantile Dietetics," by Dr. A. B. Brumbaugh, Huntingdon. Discussion led by Dr. S. L. M. Snyder, Birmingham.

October 10. Report of Committees. General and Special Business. Paper on "Pulmonary Tuberculosis," by Dr. C. B. Bush, Orbisonia. Discussion led by Dr. H. C. Frontz, Huntingdon. Paper on "Phlebitis," by Dr. C. A. McCauley, Petersburg. Discussion led by Dr. L. I. Bigelow, McConnellstown.

January 9, 1900. Annual Election of Officers and Appointment of Committees. Paper on "Proper care of Mother during Gestation," by Dr. A. R. McCarthy, Mt. Union. Discussions by Dr. W. H. Johnson, Dudley; Dr. Z. B. Taylor, Orbisonia. Paper on "Appendicitis," by Dr. Thomas Tobin, Warriorsmark. Discussion led by Dr. C. W. Banks, Huntingdon. Address by retiring President.

*A. M. Brumbaugh,
Secretary.*

SALE OF PATENT MEDICINES IN SWITZERLAND

No secret or patent medicines can be sold in a canton without the certified permission of the local Board of Health, not even to physicians. No pamphlets can be distributed advertising the self-cure of diseases or treatment by correspondence except under the same conditions. Pamphlets recommending female regulating or anticonception measures are forbidden altogether. To obtain the permit for the sale, the medicine must be submitted to the Board of Health with the formula, price and other details, and the question is finally decided by a committee representing each canton, which decides upon its harmlessness, whether the prospectus is misleading, or the price exorbitant in proportion to the expense of manufacturing, etc. The permit cannot be used in any way as an advertisement.—(Deutsche Med. Woch., January 5.—Jour. Am. Med. Asso.)

The Pennsylvania Medical Journal,

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{ SUBSCRIPTION :
\$2.00 PER YEAR.

OFFICERS FOR THE YEAR 1898-1899.

PRESIDENT :

Webster B. Lowman, Johnstown.

VICE-PRESIDENTS :

First—R. B. Watson, Lock Haven.
Third—J. Aug. Ehler, Lancaster.

Second—G. W. Guthrie, Wilkes-Barre.
Fourth—Henry Landis, Reading.

SECRETARY :

C. L. Stevens, Athens.

ASSISTANT SECRETARY :

G. W. Wagoner, Johnstown.

TREASURER :

George Benson Dunmire, 1618 Spruce St., Philadelphia.

BOARD OF TRUSTEES AND JUDICIAL COUNCIL.

M. Albert Rhoads, Reading.
John H. Packard, Philadelphia.
John Curwen, President, Warren.

R. Armstrong, Lock Haven.
I. C. Gable, York.
W. T. Bishop, Harrisburg.

Theo. P. Simpson, Secretary, Beaver Falls.
Henry Beates, Jr., Philadelphia.
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COMMITTEE ON ARRANGEMENTS AND CREDENTIALS.

G. W. Wagoner, Chairman, Johnstown.

COMMITTEE ON PUBLICATION.

Adolph Koenig, Chairman, 108 Ninth St., Pittsburg.

COMMITTEE ON PHARMACY.

James I. Johnston, Chairman, Pittsburg.

COMMITTEE ON INCREASE OF MEMBERSHIP AND EXTENSION OF POLYCLINIC TEACHING.

C. L. Stevens, Chairman, Athens.

COMMITTEE TO EXAMINE SCHOOL TEXT-BOOKS.

Louis J. Lautenbach, Chairman, Philadelphia.

COMMITTEE TO CONFER WITH STATE BAR ASSOCIATION.

W. T. Bishop, Chairman, Harrisburg.

Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

COMMITTEE ON SCIENTIFIC BUSINESS.

S. S. Towler, Chairman, Marionville, Forest County.

COMMITTEE ON RUSH MONUMENT FUND.

W. Murray Weidman, Chairman, Reading.

COMMITTEE ON LEGISLATION.

I. C. Gable, Chairman, York.

Original Articles.

SOME THOUGHTS IN REGARD TO PROPRIETARY REMEDIES AND "READY-MADE" PRESCRIPTIONS.

By WRAY GRAYSON, M.D., OF WASHINGTON.
(Read at a meeting of the Washington County Medical Society, August, 1898.)

This subject has for some time been under agitation in the medical journals, but I do not know that it has ever been regularly up for discussion before this society. Not knowing until within a very short time that a "paper" was expected from me, I have ventured to write down a few thoughts, if for no other reason than to have the matter discussed by the society.

A proprietary medicine is defined by Gould as, "A medicine made by a private formula, sold under a copyrighted name; or the preparation of which is not free to the pharmaceutic profession." We will not at all

consider the various patent "cure alls" that from time to time have been offered to the public, for, as a rule, they are not thrust upon the profession. They are all nostrums, all frauds, and concern us only on account of their bad effect upon the community; their habitual use by individuals often embarrassing the physician, and sometimes rendering futile efforts that, under proper treatment, might have been crowned with success. The remedies that we refer to are those offered the profession by respectable houses, that also furnish us with most of our materia medica. Almost every drug firm in the country is engaged in this business of manufacturing and sending out ready-made prescriptions and proprietary articles, or those near akin to the latter, and every means is used by each one to convince the profession of the great superiority of their particular brand. As every one here knows, the literature put out by these houses is truly wonderful in amount, so

much so, that to read it would engage one's entire time, to the neglect of anything else pertaining to his calling. As to the remedies themselves, "their name is legion." To such an extent has this assumption on the part of manufacturers been carried, of furnishing the profession with proprietary articles and ready-made prescriptions, that it is said that some physicians rarely write a prescription, preferring in some form or other to use those that are compounded and sent out by the large drug establishments, east and west. Admitting the convenience, and it may be more elegant form of some of these "just to your hand" remedies is one not in danger of becoming a mere routineist, and thus fail to individualize treatment to the extent required by science and duty? Now while gentlemen may hold that it is right and proper to use anything in their power in the management of disease, can it be gainsaid, that by the habitual neglect of prescription writing we lose its educational effect, and the aid it gives in the analysis of our cases? A pharmacopœia, according to Gould, "is a standard code, containing a selection of medicinal substances, preparations and formulas"; it is supposed to be an authoritative work in its particular branch, and all works, such as dispensaries, and those at all connected with the art of preparing and dispensing medicines, should be in accord with the principles and directions of this authority. A pharmacopœia is an authority for the standard of purity of medicinal agents, strength of acids and tinctures. It is our general guide in regard to medicinal substances, preparations and formulas, tested by proper authority and known to be depended upon in the treatment of diseased conditions. Of such importance is the making of a pharmacopœia considered, that every one, with the exception of that of the United States, has been made under authority of Government. The pharmacopœia of the United States is most comprehensive and accurate, compiled by learned physicians

and pharmacists, as a guide and reliable book of reference. It may be true that there are some medicinal agents and formulas that should be introduced into the pharmacopœia and made authoritative and no doubt such as are suitable will be, in due time, after they have undergone scientific investigation and trial. I do not say that nothing should be used by the physician that has not been authorized by the pharmacopœia, or even that a weak brother who has, when in great perplexity and need, now and then turned his longing eyes upon a suspicious trade-mark, should not be forgiven; but I do hold, that we should all be more particular in this regard; and that often such articles as alluded to are employed, when a skillful pharmacist might have filled a prescription, or even ourselves have compounded one more suitable to the case, and equally unobjectionable in form, as many "always ready" prescriptions. It may be said that many of these "handy medicines" are made from official articles, such as we are prescribing every day, and that the manufacturers are so *conscientious* that they put upon the box or bottle the different ingredients that compose the tablet, pill, or mixture. This is true, but as Prof. Hallberg remarks, they fail to publish their "working formula." Now a manufacturer may have a perfect right to withhold this information, but at the same time it makes his goods to all intents secret remedies to be avoided by any regular physician. What would be thought of one of our number if he would inform us, that he was in the possession of a sure remedy for a certain disease, and yet hold the secret of its preparation in his own breast. There should be no secret remedies used by the profession, nor should we encourage in a manufacturer a principle that we condemn among ourselves. Every physician ought to aim to elevate the standard of the profession, and to discourage everything savoring of charlatanism. All knowledge that one may have that would be beneficial in the man-

agement of disease, should be the common property of the profession, and it should be freely communicated. Acting on such a principle, a physician would benefit the profession at large and himself also. I think if we all did so, we would be better men and better physicians, too. Remedies are sometimes modified in their effects by combination—hence when we are asked to make use of any medicinal agent, we should not only know of what it is composed, but also we should be made acquainted with the working formula used in its preparation. The treatment of disease has now become somewhat more positive than formerly, and when we administer a remedy, we should know what to expect. This rule should be applied not only to strictly *proprietary articles*, but also to the many so-called improved forms in which ready-made prescriptions are presented to us. Some of them no doubt are good enough, but many of them are composed of such a conglomeration of ingredients, that one concludes that they are gotten up on the shot gun plan; if one ingredient misses, something else may go to the spot. In prescribing these mixtures one makes it necessary for a patient to take a half a dozen or more drugs that under other circumstances one would never think of asking him to take into his stomach.

That the houses furnishing not only proprietary articles, but also much of our materia medica, are not to be implicitly relied upon for their accuracy, I think admits, at least of the shadow of a doubt. In vol. 26, page 483, of *The Journal of the Am. Med Association* (taken from *The Graduate*) Prof. C. S. N. Hallberg gives some very curious information. Certainly, the facts mentioned by the professor do not add to the reputation of some manufacturers as skillful pharmacists. For instance, we have a tablet, consisting of *acetanilid*, soda mint and aromatic spirits of ammonia. There are others in which camphor and various tinctures put in an appearance. There is one

tablet in which are nitro-glycerine, tincture of strophanthus, tincture cactus grandiflora, tincture belladonna and tincture digitalis. Another in which nitro-glycerine is combined with iodides and bromides. There is a tablet (a daisy) in which are salol, bismuth subnitrate, catechu, powdered opium, oil of cinnamon, and to cap the climax, is added acid hydrochloric. There are other similar prescriptions given by Professor Hallberg, but those reproduced will give us some idea of the combinations that *distinguished pharmacists* ask us to give our patients. As showing "the extreme care" (a term you will all recognize as being often used by the gentlemanly agents that so often call upon us), I take the following from *The Pittsburgh Medical Review* vol. X, page 84. "In England according to *National Druggist*, a patient who had by advice of his physician, been taking tablet triturates of salol, suffered from intestinal obstruction. Abdominal section demonstrated the fact that the intestinal canal was packed with the tablets. The insolubility of the tablets is believed to have been due to *undue pressure* in their manufacture."

Another reason why the use of proprietary articles, and a good many not proprietary, should be discouraged, is the *manner in which they are advertised*: The language used is "quack language." They are "infallible"—a "sure cure"—"great discovery"—"boon to humanity," compounded in a "manner not generally known," etc., etc. Now some may say that such expressions are not common, and not used at all by respectable houses. Be that as it may, I have before me a first-class journal, in which a first-class house of New York advertises a no doubt useful remedy, not claimed to be proprietary, in which it is said that the remedy "never fails in gout and rheumatism." No doubt all of you can recall advertisements worse than this one, and also many failures in treating the above diseases by approved remedies, perhaps including the infallible one above referred to. It is a

great convenience to have morphine, strychnine and such other medicines, as require accuracy in dose, put up by a reliable pharmacist, and given to us by a reliable house; but I hold that often—very often—while at the bedside, with everything clear and fresh, we can make a prescription compounded by ourselves, or by some reliable druggist, that will better suit our case, and better subserve the good of the patient. It may not be so elegant in form as some of the ready-made remedies—it may not have as many drugs in it—but it will suit the case, it is what we want to give, and is what our patient needs. We will rest assured that our prescription will not block up the patient's intestines. The tincture or the ether, we know, is there; the nitro-glycerine has not been decomposed; the camphor or other volatile ingredient, has not been dissipated by age. We know what we have given; we know what to expect, for we have administered no uncertain or secret remedy.

The present state of affairs is attributable, at least in some degree, to alleged irregularities in the pharmaceutical profession. For years it was said that charges for filling prescriptions were exorbitant. That substitution had become common, and accidents not infrequent. If I remember correctly, the advocates for a change were principally among city physicians. It was suggested that we should return to the time-honored custom of compounding our own medicines, with perhaps an occasional prescription for the druggist to fill. At this juncture, the large drug establishments came to the assistance of the medical profession, and inaugurated the present system. It was soon found that many remedies could be conveniently and advantageously prescribed in tablet, and other now fashionable forms. The change was hailed with delight, and many rejoiced that the days of draughts and bitter mixtures were numbered. One enthusiastic gentleman said to me, that he now felt able to cope

with the homœopaths, for now he could carry his own medicines. This all seemed well, and I for one felt greatly aided in my work. But soon it was discovered, that our materia medica had totally changed, and even that some efficient official articles were either lost sight of, or so changed by combination, as to render them of doubtful value, and that some in the process of manufacture were rendered unfit and unsafe to be administered. This is the state of things at present, and our materia medica is every day becoming more uncertain and complicated. Is there no remedy? The pharmaceutic profession is not the same as a score of years ago. As a consequence of the high standard of education required, the average pharmacist is a skillful manipulator, well up in his profession and deserving the confidence of the physician. Many remedial agents furnished under the proprietary system are liable to deterioration by time. These can be furnished pure and fresh by our own drug stores. I believe the well educated drug clerks we have now are capable of any requirement of the physician.

The profession should demand protection, and there should be some means of insuring purity and uniformity in our materia medica. What better guide and authority can we have than the U. S. Pharmacopœia, compiled as it has been by pharmacists and physicians of known ability, representing almost every regular medical organization in the country? I believe the profession would endorse the judicious enrichment of the pharmacopœia by the addition of new articles that time and experience have shown to be reliable, and some new forms, in which, on account of their convenience, we now dispense our remedies. This could be done in such a manner as to be sufficiently comprehensive, to meet the wants of every physician, and at the same time avoid making the work needlessly large. Such a pharmacopœia, I think, would be approved by the profession as an authority to be trusted and followed. We would have

presented to us a judicious selection of known, and tried remedial agents, of standard purity, instead of the ponderous, unreliable mass that confronts us now.

INTESTINAL ANTISEPSIS.

BY J. A. RITCHEY, M. D., OF OIL CITY.

(Read before the Venango County Medical Society.)

At the last regular meeting of our society, I had the honor to be appointed to open the discussion for to-day on "intestinal antiseptics." In these days of therapeutic nihilism on one side, and therapeutic nonsense on the other, when it is so easy to demonstrate to the dear people that the smaller the dose, the greater the effects; that a part is greater than a whole, and that one side of the body is presided over by an entirely different force than the other, and hence if a disease or pathologic condition begins on one side of the body, it requires a certain remedy to cure or put a stop to the diseased action, but if it begins on the other side, it requires an entirely different remedy. When we are expected to believe all sorts of absurd theories and deductions from them in regard to the real nature of disease, and cram our patients full of drugs of whose action we know very little, to relieve pathological conditions about which we know absolutely nothing, notwithstanding our ignorance in regard to the primary cause of disease, and less knowledge of the remote effects of powerful drugs; we are expected to give something and give it continuously to satisfy the credulity of the people and hold our clientele.

These remarks, are to be considered general and to be applied generally. They are not always true, or at least true to the same extent; however, it is my pleasing duty to-day to open a discussion on a subject that as rationally explains results from medicines as is possible under complex and varied conditions.

By intestinal antiseptics we mean the making of the alimentary canal aseptic by means

of antiseptic remedies, and our object further must be to maintain this canal in an aseptic condition if we can reasonably expect to accomplish much by intestinal antiseptic treatment.

Now the important question comes, can we do this? and what are the means, measures and medicines by which we propose to accomplish this much to be desired end? The digestive secretions generally are the natural antiseptics of the bowels—the bile in particular prevents the fetid stools we generally have in fevers. When the bile is present in the alimentary canal, nature's laboratory is quite sufficient to keep the intestinal canal in an aseptic condition, at least for all practical purposes, and when temporarily unable to do so, produces an evacuating storm, accompanied with increased peristalsis, wind and water, by which she floods the entire alimentary tract, and by this means washes out toxins, ptomaines and offending bodies generally before they have time to be absorbed into the blood. Suppose, however, nature has been called upon too frequently to perform this work, she has exhausted her resources; is tired, worn out by being imposed upon beyond the limit of endurance; cannot arouse herself and throw off these toxic products. She now throws out her danger signals: headache, backache, boneache, muscleache, restlessness, insomnia, delirium, nausea, disturbed heart's action and elevation of temperature. Twenty-five years ago, we gave these patients a cathartic dose of calomel and followed it with hydrochloric acid, and our patients recovered promptly. Of course, we gave these medicines empirically because we had learned that they could be relied upon to do the work. Now we know that they are two of the very best intestinal antiseptics known to the profession.

There are always two objects to be kept in view in treating any diseased condition on the principle of intestinal antiseptics. The first one is to remove all toxic matter as

far as possible from the intestinal canal by injections and cathartics. The more thoroughly this can be done, the easier it will be to disinfect what remains, which, of course, will have to be done by taking internally chemical antiseptics. No one will deny the fact that by enemata and cathartics, as a rule, we can remove from the alimentary canal the greater part of anything that may chance to be in it. Very few will deny that the focus of such diseases as cholera, cholera infantum, cholera morbus, typhoid fever, etc., is in the alimentary canal, and that it is well to get rid of all offending material, and it is only the clearest common sense that to get rid of all this source of infection by mechanical means is good treatment and the proper thing to do. There cannot possibly be much pain or any possible danger in this part of the treatment and hence we have established the first proposition.

The following important proposition still remains unanswered: Is it possible by chemicals, to disinfect, sterilize or render aseptic what still remains in the intestinal canal after all proper means have been used to evacuate its contents? When decomposition of the contents of the bowels takes place, sulphuretted hydrogen is evolved, and when sulphuretted hydrogen comes in contact with bismuth, the stools are blackened. Now where certain intestinal antiseptics are given in sufficient quantities, bismuth fails to blacken the feces, hence no decomposition takes place. Phenol, one of the most constant products of intestinal decomposition and which is generally eliminated by the urine, disappears entirely after the administration of thymol. That certain drugs destroy ptomaines, or toxic intestinal alkaloids, seems to be an established chemical fact. That a great many typhoid symptoms disappear, or are materially mitigated promptly after the administration of intestinal antiseptics, no one who has carefully watched their effects will deny.

Cholera infantum is cured promptly by

stopping the use of milk entirely, which is the primary cause. By washing out the bowels and destroying the remaining toxins by the sulphocarbolates, calomel, or other reliable intestinal antiseptics. Cholera morbus, of course, can be cured by the same treatment. When these diseases are generally recognized as cases of acute ptomaine poisoning, and treated on the principle of intestinal antiseptics the mortality will drop to very near zero. Calomel is probably the best of all the antiseptics; it is a reliable cathartic and is also an aseptic and an antiseptic, as it prevents the growth of microbes and kills them after they are full grown, so that after giving calomel, for lo these many years empirically, we are now able to give a reason for the faith so long in us that calomel is the remedy *par excellence*.

Twenty-five years ago, I began treating typhoid fever by the routine administration of hydrochloric acid; giving fluid nourishment exclusively, principally milk; bathing with soap and water sufficiently to keep the patient clean; giving him all the water he wanted to drink, seeing that the sanitary surroundings were as perfect as practicable, and allowing the bowels to take care of themselves unless the stools were too frequent and fetid, of course treating complications as they might arise, treating complications very much as I do now.

In this manner I treated typhoid fever for about ten years; the mortality was quite low. I think my success was about equal to that of my neighbor practitioners. For the next ten years, I treated typhoid fever about the same way, with the difference: Instead of hydrochloric acid, I gave tincture of iodine and carbolic acid, and my success remained about the same. About that time, my former classmate and good friend, Dr. Waugh, then of Philadelphia, now of Chicago, began to write and talk about what he called the antiseptic system, and as far as I know, he was the first to advocate intestinal antiseptics as a system of treatment. For the last five years, I have used neither

of these remedies indiscriminately, or as a routine practice. Having used the sulphocarbolates, thymol, guaiacol, naphthalin, nitrate of silver, salol, creasote, turpentine, charcoal, including, of course, calomel, iodine, the mineral acids, carbolic acid, etc. In my opinion, calomel combines more virtue than any one remedy. As stated before, it is cathartic, aseptic, and antiseptic, and at the same time, it attacks and destroys more fecal bacteria than any other one remedy.

Guaiacol, thymol, naphthalin, have a special antipathy to the bacillus of Eberth. Hence, with any one of these remedies given in sufficient quantities to maintain intestinal antiseptis, with calomel enough to produce two or three liquid or semi-solid stools in every twenty-four hours, you have an ideal treatment. It will usually require from 20 to 40 grains of either one of these remedies given every 24 hours, in divided doses, to maintain intestinal antiseptis, and in order that there may be no doubt about the aseptic condition of the canal, it is well to administer 8 or 10 grains of salicylate of bismuth every 24 hours in divided doses. If the stools are not blackened by the bismuth coming in contact with sulphuretted hydrogen, the contents of the bowels are aseptic, and the dose is sufficient; if the stools are black, of course increase the dose. Salicylate of bismuth is a very good intestinal antiseptic, and there can be no harm in thus administering it. On the other hand, it may do infinite good by indicating how much of the remedy is required, because, if we give the remedy in a half-hearted way, or give too little to produce certain results, namely, the destruction of the micro-organisms in the canal, and the cutting off of all reinforcements to those that have escaped to the blood channels. That the typhoid bacillus has been detected in the blood at a very early period in the disease is admitted, but that there is an army of leucocytes there, to take care of just such intruders, cannot be denied. The typhoid bacillus enters the alimentary canal at the

mouth, travels downward till it reaches the lower part of the ileum, and there builds its nest in that secluded and filthy spot, surrounded by the most noxious of all the intestinal micro-organisms, breeds and hatches out countless millions of its kind. Now if we admit that efficient intestinal antiseptis is possible—and the evidence seems indisputable—nothing is clearer in medicine than that we should at once and promptly clear out this nest of infection, remove all offending material we can, and disinfect the rest.

This is not an essay on typhoid fever, in its entirety, but only so far as intestinal antiseptis bears on the disease. In passing, however, I may remark, that the second condition, that of following the bacillus into the blood, and seeing to it that it is exterminated there, is best done by aiding the leucocytes in their phagocytic work. Vaughan says that we can double the number of leucocytes in a short time by giving nucleinic acid.

If this be true, and there is no better authority, then nuclein is always indicated to increase the army of leucocytes that must be depended upon to destroy the army of invasion comprised of typhoid bacilli. Probably the safest and best all around intestinal antiseptics are the sulphocarbolates. They cost less, are less irritating, and can be given for an indefinite length of time, without any unpleasant effects. The adult dose is four or five grains given every two or three hours, until the contents of the bowels are rendered aseptic and the stools odorless, and if you are not satisfied when this condition is secured, try the bismuth test.

Charcoal is one of the safest antiseptics. It is cheap, and not hard to take. It is not an antiseptic in the true sense. It merely has the power of absorbing putrid gasses, and the quantity required is impracticable. Quite recently, I had some experience with charcoal as an antiseptic which is worth relating, as well as remembering. The doctors in consultation were all in favor

of giving an intestinal antiseptic, but could not agree on the special drug. They finally compromised on charcoal, and we began by giving a neat little tablet every four hours. The next day the tablets appeared at the outer end of the alimentary canal in the exact form, color and consistency they entered. So that if you are ever constrained to give charcoal, do not give it in tablet form, unless you at the same time give strict directions to have the tablets chewed to a fine powder before they are swallowed, and then only give it as an adjuvant, as it is not capable of doing the work alone, at best, it can only prevent decomposition. Baptisia is a remedy given extensively by the Eclectics and Homœopaths. I have never used it, but am inclined to the opinion it is quite an efficient remedy. The Woodbridge treatment of typhoid fever is on the principle of intestinal antiseptics. It simply advises the old mercurial treatment. A new intestinal antiseptic, carbonate of gualacol, which has no claims of being any better, if as good as many others already well tried and found efficient. Hydronaphthol prevents all the growth and development of any and all microbes, and destroys all their toxic products at the same time. Biniodide of mercury has a high germicidal power, but at the same time, it has a high toxic power; it is one of our most powerful antiseptics, but its high toxicity makes it of very little value as an intestinal antiseptic. While it is sixteen times more powerful than beta naphthol, it is 250 times more toxic, so that we can safely disinfect fifteen times more material with the beta naphthol than the biniodide of mercury.

We have so many of these remedies that it is largely a matter of taste which one we shall use. That they will do the work, if given in sufficient doses seems unquestionable. That many of them are illy borne by delicate organisms and weak and irritable stomachs is too true, and herein lie the difficulties which test and try the tact and skill of the physician. You may not in

many instances be able to completely sterilize all the contents of the intestinal canal, but in every case where the fetor of the stools is especially offensive, give these remedies, and they will do good. In all cases of chronic or obstinate constipation, intestinal antiseptics are indicated. In these cases there is more or less absorption of toxins into the blood—auto-intoxication—and this is why constipation makes cranks of us all.

OLD AGE AND EXERCISE.

Exercise is essential to the preservation of health; inactivity is a potent cause of wasting and degeneration. The vigor and equality of the circulation, the functions of the skin, and the aeration of the blood are all prompted by muscular activity which thus keeps up a proper balance and relation between the important organs of the body. In youth the vigor of the system is often so great that if one organ be sluggish, another part will make amends for the deficiency by acting vicariously, and without any consequent damage to itself. In old age the tasks cannot be thus shifted from one organ to another; the work allotted to each sufficiently taxes its strength, and vicarious action cannot be performed without injury. Hence the importance of maintaining, as far as possible, the equable action of all the bodily organs, so that the share of vital process assigned to each shall be properly accomplished. For this reason exercise is an important part of the conduct of life in old age, but discretion is absolutely necessary. An old man should discover by experience how much exercise he can take without exhausting his powers, and should be careful never to exceed the limit. Old persons are apt to forget that their staying powers are much less than they once were, and that while a walk of two or three miles may prove easy and pleasureable, the addition of a return journey of similar length will seriously overtax the strength.—(*Dietetic and Hygienic Gazette*.)

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THE DAILY MEDICAL INSPECTION OF SCHOOLS.

Statistics have long since shown that exacerbations of contagious diseases among children, occur at the beginning of the school year, or shortly after, and that at the end of the school term a reduction in the number of contagious diseases occurs. In view of these facts, and the recognition of the causes that produce them, the strictest surveillance over the health of school children should be exercised. This becomes more imperative when it is remembered that children are often sick for several days with a contagious disease before it is recognized as such by their parents or teachers, and the stimulus of an ambition to retain their places in class, frequently urges children to attend school when under other circumstances they would be confined to bed. There are few physicians who cannot recall cases of diphtheria, scarlet fever, and other contagious diseases, who give a history of several days' sickness and attendance at school, at the time of the first visit. Parents and teachers cannot be expected to possess sufficient powers of diagnosis to recognize the first symptoms of many contagious diseases, and it consequently de-

volves on those in authority in educational institutions to provide means to overcome the danger that threatens as a result of this crowding together of many children. In many European, and some American cities, a daily medical inspection of schools is in vogue, a system which must appeal favorably to all physicians, if not to laymen.

The main difficulty in the way of such daily inspection is the matter of expense, but if properly approached, this can usually be overcome. In every city may be found well qualified young physicians, whose practice is not so exacting as to prevent the giving of half an hour to school inspection each day, for a nominal recompense. This is especially true when the labor is looked upon as the performance of a duty which physicians take upon themselves when they assume the calling of medicine, namely, the prevention of disease. The task may be made a very light one, through the intelligent co-operation of the teachers, who can easily institute a systematic preliminary inspection prior to the arrival of the physician, and direct his attention to any pupil who may give evidence, by word of mouth or otherwise, of illness. In the event of the discovery of any contagious disease, the pupil is at once dismissed, with a note to the parents, recommending that the family physician be consulted.

In addition to the detection of contagious diseases, the services of the physician are also valuable, for the discovery of defective vision in children, on account of which, pupils are sometimes considered dull or stupid. Many other conditions likewise merit his attention; such as ventilation, light, disinfection of books, etc. Such a system of medical inspection as above indicated, has recently been adopted in one of the ward schools of Pittsburgh, and has met with the hearty co-operation of the teachers, and the apparent satisfaction of pupils and parents.

K.

THE ALCOHOLIC LIQUIDS OF THE UNITED STATES PHARMACOPOEIA.

At various times during the past few years, attempts have been made, at meetings of medical and pharmaceutical associations, looking toward the dismissal of whisky, brandy and wine, from the official list of the United States Pharmacopœia. These attempts have, as a rule, been instigated by well meaning persons, with "good intentions," who believe that were these drugs dismissed from the official list, a stumbling block would be removed from the path of weak brethren, and that the calling of pharmacy would be made more respectable. That either of these two ends would be obtained, is a question, but that it would throw difficulties in the way of the sick, we believe to be susceptible of proof. The aromatic ethers contained in well matured whisky and brandy, doubtless exert some of the effects recognized as the action of these two drugs, which makes them preferable to pure alcohol. No one who looks upon the question of the use of alcohol, as a remedy in disease, other than from a fanatical point of view, will deny its value under certain conditions, and as the pharmacopœia demands of all of the alcohol-bearing drugs certain requirements as to strength and purity, the reason for their retention becomes evident. Not only could physicians demand no guarantee of strength and purity, but great difficulty would be experienced in local option districts, should these remedies be declared unofficial.

In the pharmacopœia of 1890 four alcoholic liquids, aside from alcohol proper, are recognized. They are: *Spiritus frumenti*, *spiritus vini gallici*, *vinum album* and *vinum rubrum*. Of whisky it is demanded that it be at least two years old, and that it should have an alcoholic strength of 44 to 50 per cent. by weight, or 50 to 58 per cent. by volume. Requirements are exacted that look toward the absence of fusel oil, or added sugar or glycerin, etc. The presence of tannin and free acid is also limited.

Brandy is required to be at least four years old, and to have an alcoholic strength of 39 to 47 per cent. by weight, or 46 to 55 per cent. by volume. The same tests are required for impurities or adulterations, as in the case of whisky.

White wine should contain not less than 10 nor more than 14 per cent., by weight, or 12.4 to 17.3 per cent., by volume, of absolute alcohol. It is further recommended that when white wine is prescribed, without further specifications, a dry white wine of domestic production, such as California Riesling, Ohio Catawba, etc., be employed. This recommendation that domestic wines be preferred over imported ones, is doubtless a good one, but in making this recommendation the pharmacopœia contradicts itself peculiarly. In the definition the statement is made that the white wine is made by "fermenting the juice of fresh grapes, the fruit of *Vitis vinifera*," the species of grape recognized as the origin of the European cultivated varieties. Most of the California vines are from the same species, but Catawba, Concord and other grapes grown in the Eastern States represent cultivated varieties of *Vitis Labruska*, better known under the name of "Northern fox grape." Under the strict interpretation of the definition, Catawba wine is therefore excluded. It is said that sherry wine is used almost exclusively by pharmacists in making the official wines, such as *vinum opii*, etc., in spite of the fact that in its usual fortified condition it contains twice as much alcohol as is demanded by the U. S. P., for the reason that it will not spoil as rapidly if once uncorked, and as alcohol is added to all of these preparations, its use is probably justifiable.

In the case of red wine, the same requirements as regards percentage of alcohol and the freedom from impurities and adulterations are obligatory. Very properly, a dry red wine of domestic production, such as a native claret, burgundy, etc., is recommended.

K.

A NEEDFUL HEALTH LAW FOR PENNSYLVANIA.

Under the head of "Communications" will be found a bill introduced by Dr. S. S. Towler, under which it is proposed to place the vital statistics of the State of Pennsylvania upon a more reliable basis. At the present writing the bill has passed second readings in the House in the amended form in which it appears. It is to be hoped that it shall have been enacted into a law before these lines will appear in print. The vital statistics of Pennsylvania have long been a standing disgrace to the state, for the reason that practically no records of births, deaths and contagious diseases were kept, outside of the cities and towns, so that no legal evidence of death may in many instances be obtained of persons who died in the country. No burial certificates being required outside of the localities already indicated, the record of death resolves itself often into a matter of hearsay, and there exist no safeguards looking toward the prevention of criminal practices liable to result in death. To be the power for good which is the legitimate attribute of a State Board of Health, it must receive frequent reports from regularly appointed health officers covering all parts of the state. The recent unfortunate occurrences in Pittsburgh, when cases of smallpox were sent to seek assistance at the Health Bureau from the country, traveling, meanwhile, in street cars and on the streets, requires no comment to indicate the mismanagement. Under existing circumstances, nothing else was, however, possible, for in the townships in which at least one case originated, there was no health officer, nor place where the patient could be legally quarantined. In view of these reasons, the proposed law should be speedily enacted, and its provisions enforced throughout the state.

K.

In Philadelphia forty deaths from typhoid fever were recently reported in one week.

EDITORIAL NOTES.

SPECIAL NOTICE TO DELEGATES TO JOHNSTOWN.

The chairman of the Committee on Scientific Business again requests all delegates and permanent members desiring to present papers at Johnstown to furnish the committee with the title of the paper, and address of the writer. It is proposed to publish the program in the April issue of the Journal, and in order to do so, the data should be in the committee's hands without delay. Dr. S. S. Towler, chairman of the committee, should be addressed at "House of Representatives, Harrisburg." K.

BUSINESS PROGRAM OF THE JOHNSTOWN MEETING.

Under the head of "Official Communication" will be found a report of the business program of the meeting of the State Medical Society at Johnstown, in May. Also information regarding railroad fare, etc.

K.

DR. JOHN B. HAMILTON'S SUCCESSOR.

Dr. George H. Simmons has been elected to succeed the late Dr. John B. Hamilton, as editor of the *Journal of the American Medical Association*. Dr. Simmons was formerly editor of the *Western Medical Review*, a monthly journal published at Lincoln, Nebraska.

K.

NUMBER OF INSANE AT DIXMONT.

During the year ending September 30, 1898, 1,005 patients were treated in the Department for the Insane of the Western Pennsylvania Hospital, at Dixmont; 218 of these were new patients received during the year; 40 were discharged cured; 115 improved; 4 unimproved, and 66 died.

K.

DR. GRAYSON'S ARTICLE ON PROPRIETARY MEDICINES.

The article by Dr. Wray Grayson, in this issue, is an excellent exposition of the proprietary medicine evil. After reading the paper before the Washington County Medical Society, it was retained by the author for some slight correction before it should be submitted for publication. Unfortunately

ly death terminated his career of usefulness and honor before the paper was returned to the secretary of the society, and it now appears posthumously, in evidence, as it were, that the good men do live after them.

K.

GALVANISM FOR CORNEAL LEUCOMA.

Lambert, quoted in *Pacific Medical Journal*, recommends the application of a mild, constant galvanic current, from 3 to 5 minutes twice a day for six weeks, for cicatricial corneal leucomas. One electrode is held in the hand, the other placed over the closed eyelid, the positive and negative being alternated.

K.

ANOTHER ACCUSATION AGAINST TEA.

Tea and coffee are accused of producing many evil effects on the vital functions of the human body and doubtless with good reason. The most recent accusation against tea is that its continued use is a frequent cause of rheumatism, owing to the fact that its alkaloid, theine, inhibits the excretion of uric acid and urates, thus laying the foundation of the lithæmic diathesis.

K.

LISTS OF COUNTY SOCIETIES.

The lists of the officers and members of the several county societies will be found in this number. Care has been taken to make these lists as full and accurate as possible, but mistakes in the spelling of names are apt to occur. The Secretary of the State Society will be glad to receive notice of any errors that may be discovered. Members whose first name is given only by initial will confer a favor by sending their full name to the Secretary.

C. L. S.

THE PENNSYLVANIA MEDICAL LAW DECLARED CONSTITUTIONAL IN ERIE.

In the prosecution of Lee Finn for practicing medicine illegally in Erie county, there are several circumstances worthy of notice. There was no delay in the judgment by the jury against him. The judge

instructed the jury to find judgment subject to the decision of the court, as to the constitutionality of the law. After the verdict, came the important argument of the attorneys of the defendant, endeavoring to show the unconstitutionality of the present law, "Motion in arrest of judgment, May term, 1897." This was contended with much zeal on their side, and the society fearing the outcome of the matter and realizing the importance of the decision, employed, in addition to the district attorney, several of the most able attorneys at the Erie bar. A great deal of work was done on the case, and expense incurred. It was nearly two years from the time of this argument until the opinion, vindicating the present law, was at last obtained. The society continuously pushed the matter with energy, in a quiet and becoming manner. There was much discouragement, and in the long wait for the final opinion, many feared that the case would never be decided. The committee, with full power to act, was Dr. John W. Wright, whose persistent and intelligent effort on the part of the society was invaluable and most fortunate.

It seems there was a case against a certain Dr. Wilson in Clearfield county, in which the Pennsylvania law was questioned; but it has not reached the legal reports, and it is likely that the legality of the law was not argued separately, and thus, did not form, as in this case, the main interest and importance. An extract of Judge Walling's opinion is printed elsewhere in this issue. It completely establishes the constitutionality of the law, and the act will evidently stand, without further question, unless some one with greater nerve for legal contest shall appeal a similar case to the Supreme Court.

I. J. D.

HARRISBURG ACADEMY OF MEDICINE—REPORT OF THE FEBRUARY PROCEEDINGS.

"Colorado as a Health State," a subject of especial interest at this time, because of the meeting of the American Medical As-

sociation at Denver, and at which the Academy was represented by Drs. Bishop, Seibert and Seitz, was the subject of a discussion ably opened by Dr. J. L. Landis Seitz, with an elaborately prepared paper upon the geographical and sanitary features of the State. Reference being made to the pessimistic views of Webster as to Colorado's future, the speaker commended the remarkable activity of the people who irrigated and built railroads into a land of small rainfall, abundant sunshine, high altitude, and stimulating and non-stagnant air. Reference was made to the pleasant summer temperature, and the dry air and intense sunshine of winter, making this trying season more pleasant and healthful there than in regions of lower altitude with higher winter temperature, but much cloudy weather. Colorado shows 56 per cent. of possible amount of sunshine, while Philadelphia shows only 37 per cent. There are few gales, but an average wind velocity of seven or eight miles an hour. The peculiar electrical phenomena of Pike's Peak were fully described, and an electrical quality noted in the climate of the state in general.

As a health resort, the speaker advocated the eastern slope, and considered Colorado Springs as a place too much given to style and social dissipations to promote the ease and rest demanded by tubercular cases. Denver and several smaller places he considered preferable. Persons with organic heart troubles he claimed have no business in Colorado, but spoke in laudatory terms of the climate as the ideal one for early, non-hemorrhagic cases of tuberculosis, and especially cases in which large cavities do not exist. Dr. Park, discussing the laryngeal features of tubercular involvement, related details of cases of his which went to Colorado. Laryngeal cases, and especially acquired ones, in which heredity is eliminated as a factor, usually do well when sent to Colorado in the early stages of the disease. Dr. Seibert laid emphasis upon the gradual removal of patients to

high altitudes, and that short visits to such regions as Colorado and Southern California are useless, but that the patient should remain there. Large cavities, a weak heart, and poor digestion, he considered a combination Colorado can not benefit. Dr. Blair claimed for the Northwest in general the electrical qualities mentioned in the paper, and emphasized the importance of the matter, because of the fact that high potential electrical currents generate ozone in the atmosphere.

T. S. B.

Reviews.

DISEASES OF THE SKIN. An Outline of the Principles and Practice of Dermatology. By Malcolm Morris, F. R. C. S., Surgeon to the Skin Department, St. Mary's Hospital, London. New (2) Edition. Revised and Enlarged. In one 12mo. Volume of 601 Pages, with 10 Colored Plates and 26 Engravings. Cloth, \$3.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

This little book contains 587 pages, divided into twenty-five chapters. "Classification is a good servant but a bad master." Consequently, while the author briefly reviews the classifications of the various authorities, he does not specially commend any of them, nor advance a new one of his own. He inclines to follow Unna's etiological method.

Diagnosis by exclusion is advised, so that if unable to decide at once what the disease is, you may conclude what it is not. Later study of the case thus narrowed down will probably result in a correct decision. Twenty-three pages are devoted to "drug eruptions." "Choral and bromide of potassium are generally contra-indicated (in skin disease due to a neurotic element) on account of their tendency to cause eruptions." "Roentgen ray dermatitis" is disposed of in four lines. The therapeutical suggestions on each disease are voluminous.

Duhring and Wier Mitchell are among the few American authors quoted. The plates are fairly good; the "engravings" are wood cuts and both have the fault of portraying aggravated forms of the disease. The paper is good and the typography excellent. The book is really a condensed encyclopedia on skin diseases, and can be read with interest and consulted with benefit by any practitioner, be he "general" or "specialist." It will undoubtedly meet with an extensive sale, honestly merited by its intrinsic worth. A. L. R.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, Drawn from Journals, Monographs and Text-Books of the Leading American and Foreign Authors and Investigators. Collected and Arranged with Critical Editorial Comments by Many Writers. Under the General Editorial Charge of George M. Gould, M. D. Illustrated. Price, Cloth, \$6.50; Half Morocco, \$7.50. For Sale by Subscription. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

The entire field of medicine and surgery is covered under 18 heads by 28 editors. The aim of the work is not the cataloguing of the journal articles of the year. The plan is the modern one of departmental editors, each of whom contributes an epitome of such articles of the year as seem to him of signal importance. Thus the value varies as the skill of the different editors. These are mostly eminent men, though, unfortunately, in some instances the work has evidently been done by "collaboration" with some unmentioned lesser light, whose literary and scientific abilities are less than that of him whose name adds luster to the prospectus. General Medicine and General Surgery occupy over 200 pages each. Then follow the specialties with from 20 to 40 pages each, while the remaining heads, Pathology, Materia Medica, Anatomy, Physiology, Physiological Chemistry, Hygiene and Legal Medicine require from 8 to 50 pages each. To particularize, the matter in the department of the Eye is especially well culled from the vast number of articles that have appeared. The ear section, too, shows careful work, its only faults being of omission. General Medicine, though without Dr. Pepper's name, is as well handled as in former editions, for the reason that he delegated the actual work to junior editors anyway. The resumes under the heads of "Tuberculosis" and "Anæsthesia" are worth the price of the work to any practitioner. The distinguishing feature of value, as compared to similar works, is the editorial comments. In many places a word of caution is bracketed in where a zealous advocate would lead the incautious to danger. In some departments important articles are ignored, while space is wasted on matter new only to the editors. References to foreign journals preponderate. Interesting cuts and plates are sprinkled through the work. The use of heavy-faced type through the text to make topics stand out and catch the eye is convenient for general perusal. Mechanically, the book is above criticism, save the gloss on the paper. An adequate and accurate index enables the hasty seeker to find things quickly. The yearly output of medical literature is so vast, and, besides, so deplorably encumbered with chaff, as to render

hopeless the task of winnowing the occasional kernel without the aid of some such work as this "Year Book," which, in the opinion of the reviewer, is one of the best of its kind. C. Q. J.

DISEASES OF THE EYE. A Hand-Book of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz, M. D., Professor of Ophthalmology in the Jefferson Medical College, etc. With 255 Illustrations and Two Chromo-Lithographic Plates. Third Edition. Thoroughly Revised. Price, Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

The first edition of this popular text-book appeared in 1893, and a supplementary edition was issued two years later. In 1896 this edition was revised, and in the present, the third revised edition, the reading matter is increased over the first by 55 pages, and contains 39 more illustrations.

The author has shown how earnestly and successfully he has endeavored to keep abreast of advancing science by his new articles on the bacteriology of the conjunctiva and cornea, particular attention having been given to the important relations which micro-organisms bear to many ocular disorders. Mention is made of Randolph's oyster Shucker's keratitis, Parinaud's conjunctivitis and the causation of sloughing ulcers of the cornea by pneumococcus, mixed and schizomycetal infection.

The chapters on general optical principles, external examination, refraction, ophthalmoscopy and retinoscopy have been considerably added to. The chapter on operations has been enlarged. The author mentions the use of formaldehyde vapor in sterilizing eye instruments, but prefers absolute alcohol for this purpose.

Tansley's operation for congenital ptosis is described in full and illustrated with three very good cuts. The popular operations for the relief of entropion and ectropion are fully described and illustrated. Mules' evisceration, with the introduction of a glass sphere, is described and the modifications of the same spoken of. Twenty pages are devoted to describing the operations for cataract and eight for the operations upon the eye muscles.

The chapter on amblyopia and amaurosis is disappointing. These interesting ocular disorders are deserving of a more exhaustive consideration.

The description of the diseases of the retina and of the optic nerve, with their treatment, is complete and is illustrated by good cuts, several of them being new. The subject of optic neuritis is thoroughly covered, the author giving a *resume* of the most important theories of the mechanism of papillitis.

The diseases of the choroid and of the crystalline lens are handled in a masterful way. Glaucoma is well described, and the author's review of

the pathogenesis of the different varieties is valuable.

The appendix contains, as in the second edition, a full description of the method of determining the corneal astigmatism with the ophthalmometer of Javel-Schiötz and the rotation of the eyes with Steven's tropometer. E. S.

AN AMERICAN TEXT-BOOK OF GYNECOLOGY, MEDICAL AND SURGICAL FOR PRACTITIONERS AND STUDENTS. By Henry T. Byford, M. D., J. M. Baldy, M. D., Edwin B. Cragin, M. D., J. H. Etheridge, M. D., William Goodell, M. D., Howard A. Kelly, M. D., Florian Krug, M. D., E. E. Montgomery, M. D., William R. Pryor, M. D., George M. Tuttle, M. D.; Edited by J. M. Baldy, M. D. Second Edition, Revised. With 341 Illustrations in the Text, and 38 Colored and Half-Tone Plates. Price, Cloth, \$6.00. Sheep or Half Morocco, \$7.00. For Sale by Subscription. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898.

This book has taken its place as one of the more popular of the American Text-Book Series; the first edition, sold by subscription, being exhausted in four years. Formerly a marvel of the typographers' and illustrators' skill, its excellence was marred by illustrations of tents, office furniture, speculums, retractors, etc. Thus, while this edition has but 341 illustrations, as opposed to the 360 in the old edition, it is vastly improved, for more than forty old illustrations have given place to new, and better ones.

The type has been changed to a slightly lighter face, which, while it gives a neater appearance to the printed page, renders it more difficult to read hurriedly. The paper is slightly heavier than in the old edition.

Viewing its pages by number, it appears that this edition contains 20 more pages than the old; yet this does not give a true conception, since much of the objectionable repetitions are done away with by including all the preparation and after treatment of operative cases in the chapters devoted to technique and after treatment, instead of considering them under each operation.

"Much new material has been added, and some of the old eliminated or modified" expresses the matter exactly. The greatest alterations have been made in those articles touching upon hysterectomy, both vaginal and abdominal; and the work is thoroughly up-to-date on this point. The articles on the bladder, urethra, and ureters, as well as the portion devoted to plastic surgery, are all new, being entirely rewritten. Sixteen pages have been added to the chapter on "Pelvic Inflammation," and the operation of posterior vaginal section, for diagnostic or further operative purposes, is fully described and illustrated.

The examination of the bladder, and the catheterization of the ureters are equally well described and illustrated. The new edition is a vast improvement over the old, and besides being brought up to modern times, possesses features of superiority that will commend it to the profession, both at home and abroad. A. L. R.

NEW BOOKS.

Transactions of the College of Physicians of Philadelphia. Third Series. Volume the Twentieth. Philadelphia. 1898. Printed for the College by W. J. Dornan.

Transactions of the Medical Society of the State of North Carolina. Forty-fifth Annual Meeting, Held at Charlotte, N. C., May 3, 4 and 5, 1898. Winston, N. C., Carolina Publishing Company, Printers. 1898.

A Manual of Bacteriology. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology, Medical Department University of Buffalo. With Seventy-eight Illustrations. Price, \$1.50. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1898.

Three Thousand Questions on Medical Subjects. Arranged for Self-Examination. With the Proper References to Standard Works in Which the Correct Replies Will be Found. Second Edition. Enlarged. Price, 10 cents. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1899.

Transactions of the American Climatological Association. For the Year 1898. Volume XIV. Philadelphia: Printed for the Association. 1898. Copies may be had of the Secretary, Guy Hinsdale, M. D., 3943 Chestnut street, Philadelphia. Wm. J. Dornan, Printer, 100 North 7th street, Philadelphia.

The Ready Reference Hand-Book of Diseases of the Skin. By George Thomas Jackson, M. D. (Colorado), Professor of Dermatology in the Woman's Medical College of the New York Infirmary and in the Medical Department of the University of Vermont, etc. With Seventy-five Illustrations. Third Edition. Revised and Enlarged. Lea Brothers & Co., New York and Philadelphia. 1899.

Ocular Therapeutics for Physicians and Students. By F. W. Max Ohlemann, M.D., (Minden, Germany) Late Assistant Physician in the Ophthalmological Clinical Institute of the Royal Prussian University of Berlin, etc. Translated and Edited by Charles A. Oliver, M.D., (Univ. Pa.) One of the Attending Surgeons to the Wills' Eye Hospital, etc. Price \$1.75. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

An American Text-Book of Diseases of the Eye, Ear, Nose and Throat. Edited by G. E. de

Schweinitz, M. D., Profesor of Ophthalmology in the Jefferson Medical College, Philadelphia, etc., and B. Alex. Randall, M. D., Clinical Professor of Diseases of the Ear in the University of Pennsylvania, etc. Illustrated with 766 Engravings, 59 of them in Colors. Price, Cloth, \$7.00 net; Sheep or Half Morocco, \$8.00 net. Philadelphia W. B. Saunders, 925 Walnut street. 1899.

The American Year-Book of Medicine and Surgery. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books, of the Leading American and Foreign Authors and Investigators. Collected and arranged with Critical Editorial Comments by many Writers, Under the General Editorial Charge of George M. Gould, M.D. Illustrated. Price, Cloth, \$6.50; Half Morocco, \$7.50. For sale by subscription. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899.

Diseases of the Ear, Nose and Throat, and Their Accessory Cavities. By Seth Scott Bishop, M. D., D. C. L., LL. D., Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate Medical School and Hospital. Second Edition. Thoroughly Revised and Enlarged. Illustrated with Ninety-four Chromo-Lithographs and Two Hundred and Fifteen Half-tone and Photo-engravings. Pages xix-554. Extra Cloth, \$4.00 net; Sheep or Half-Russia, \$5.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia. 1898.

A Text-Book on Practical Obstetrics. By Egbert H. Grandin, M. D., Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital, etc. With the Collaboration of George W. Jarman, M. D., Gynecologist to the Cancer Hospital; Instructor in Gynecology in the Medical Department of the Columbia University, etc. Second Edition. Revised and Enlarged. Illustrated with Sixty-four Full-page Photographic Plates and Eighty-six Illustrations in the Text. Pages xiv-461. Extra Cloth, \$4.00 net; Sheep, \$4.75 net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia. 1898.

REPRINTS AND PAMPHLETS.

Mechanical and Surgical Treatment of Fractures of the Neck of the Femur. By Arthur J. Gillette, M.D., St. Paul. Reprinted from the Northwestern Lancet, August 15th, 1898.

On the Frequency of Varicocele and the Limitations of Operative Treatment for this Affection. By N. Senn, M.D., Chicago. Reprinted from the Philadelphia Medical Journal, June 18th, 1898.

Official Communications.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

ORGANIZED 1848.—INCORPORATED 1890.

The Forty-ninth Annual Meeting of this Society will be held in the Johnstown Opera House, Johnstown, Pa., on Tuesday, Wednesday, and Thursday, May 16, 17, 18, 1899, opening at 9 o'clock A. M., Tuesday, May 16.

The Annual Address of the President will be given by Dr. Webster B. Lowman, Johnstown.

The Address in Medicine, by Dr. J. Chris Lange, Pittsburg.

The Address in Surgery, by Dr. George W. Guthrie, Wilkesbarre.

The Address in Obstetrics, by Dr. Francis P. Ball, Lock Haven.

The Address in Hygiene, by Dr. W. M. L. Coplin, Philadelphia.

The Address in Mental Diseases, by Dr. H. L. Orth, Harrisburg.

The Address in Laryngology, by Dr. D. Braden Kyle, Philadelphia.

The following items are to be acted upon: Reports of—

The Secretary, Dr. C. L. Stevens, Athens.

The Treasurer, Dr. George Benson Dunmire, Philadelphia.

The Board of Trustees, Dr. Theo. P. Simpson, Beaver Falls, Secretary.

The Board of Censors, Dr. Theo. P. Simpson, Beaver Falls, Recorder.

District Censors.

The Committee on Arrangements and Credentials, Dr. Geo. W. Wagoner, Johnstown, Chairman.

The Committee on Publication, Dr. Adolph Koenig, Pittsburg, Chairman.

The Committee on Nominations, to be constituted.

The Auditing Committee, President Webster B. Lowman, Johnstown, Chairman.

The Committee on Pharmacy, Dr. James I. Johnston, Pittsburg, Chairman.

The Committee on Scientific Business, Dr. S. S. Towler, Marionville, Chairman.

The Committee on Increase of Membership and Extension of Polyclinic Teaching, Dr. C. L. Stevens, Athens, Chairman.

The Committee on Rush Monument, Dr. W. Murray Weidman, Reading, Chairman.

The Committee on Legislation, Dr. I. C. Gable, York, Chairman.

The Committee to Examine School Text-Books, Dr. Louis J. Lautenbach, Philadelphia, Chairman.

The Committee to Confer with the State Bar

Association, Dr. W. T. Bishop, Harrisburg, Chairman.

The Committee on Archives, Dr. J. H. Musser, Philadelphia, Chairman.

Delegates to other societies.

State Board of Medical Examiners.

The proposed amendment to the By-Laws, changing the time for the annual meeting; the amendment reading "To Amend Article V. Strike out 'third Tuesday of May' and insert 'second Tuesday of September.'"

Applications to read papers at this meeting should be addressed to the Chairman Committee on Scientific Business, Dr. S. S. Towler, House of Representatives, Harrisburg, before April 1.

Applications for space for exhibits should be made to Dr. A. N. Wakefield, Johnstown.

Applications for hotel accommodations should be made to Dr. J. B. Lowman, Johnstown.

Dr. Geo. W. Wagoner, Johnstown, is Chairman of the Committee on Arrangements and Credentials.

Railroads will sell tickets at rate of two cents per mile (four cents one way distance) on card orders from points in Pennsylvania, tickets to be sold May 14 to 18, valid for return to May 20, inclusive. For card orders apply to the Secretary of the State Society, mentioning the road or roads over which orders for tickets are desired.

County societies are entitled to one delegate for each five members, and an additional delegate when the society contains three members more than a multiple of five. *Delegates must present their credentials, and permanent members not delegates must present certificates of good standing in their county society if they wish to register and enjoy the privileges accorded members and guests of the society.*

Webster B. Lowman, President.

C. L. Stevens, Secretary, Athens, Pa.

February 27, 1899.

RABIES.

During the past year it has seemed to be established beyond the possibility of doubt, by Memmo in Italy, according to the Centralblatt für Bakt. (part 1, vol. xx., 1898), that the microbe described by Spinelli and Rivolta, and recently found in the spinal cord by Sanfelice, who used a special stain, is the specific cause of hydrophobia. Inoculation in lower animals from cultures has fulfilled all the needful data on which to base a claim of this kind.—(Medical Record.)

Communications.

AN ACT TO PROVIDE FOR THE APPOINTMENT OF MEDICAL OFFICERS OF PUBLIC HEALTH IN THE COUNTIES AND TOWNSHIPS OF THE COMMONWEALTH OF PENNSYLVANIA.

Section 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, That the State Board of Health of this Commonwealth shall after the passage of this act appoint a physician as medical health officer for every county in the State for a term of three years who shall have the general supervision over the sanitary affairs of the county and report monthly to the State Board of Health. The said health officer shall receive an annual salary to be paid out of the county treasury, the amount of which shall be fixed by the county commissioners.

Section 2. The county commissioners of every county in the State shall after the passage of this act appoint in every township or sanitary district of their county as provided in section three a reputable physician or other competent person as township officer of public health for a term of one year.

Section 3. Wherever it is deemed advisable by the county commissioners they may combine two or more townships into one sanitary district and shall then appoint one health officer to this combined district.

Section 4. The health officer of townships shall enforce the sanitary laws of the State and the regulations of the State Board of Health and shall make monthly returns of vital statistics to the county medical officers and annually to the county commissioners.

Section 5. The fee to township health officer for making such returns shall be fixed by the county commissioners and shall be paid by the county.

Section 6. The physician, if one is in attendance, or in the absence of such, the midwife, if one is present, or in the absence of a midwife, an adult in attendance at a birth shall report the same to the township health officer within thirty days from time of birth; all deaths shall be reported by physicians in attendance to township health officers. All cases of infectious or contagious diseases occurring in the township shall be reported to the township health officer by physician in attendance. Blanks for making these returns shall be furnished to the township health officer by the State Board of Health.

Section 7. Any violation of or failure to com-

ply with the provisions of section six of this act shall subject the person so offending to a penalty not exceeding twenty-five dollars and costs.

Section 8. All acts or parts of acts inconsistent herewith are hereby repealed.

THE MOUNTAINS OF PENNSYLVANIA AS HEALTH RESORTS.

To the Editor Pennsylvania Medical Journal:

Sir:—At the last annual meeting of the State Board of Health of Pennsylvania, a report by the Deputy Inspector of the Pocono District was read, presenting facts which demonstrated the climatic value of that mountainous section of the State. Physicians are often at a loss to know where to send convalescents and those who have manifested a susceptibility to the tuberculous infection, from the fact that not only the pecuniary means of the patients but numerous other circumstances make it undesirable to advise them to go a great distance from home. The Board considered that the information contained in this report would be welcomed by such practitioners, and therefore instructed its Secretary to address a brief communication to the medical journals of the country, calling attention to the same. The following is a brief abstract of the report:

It showed that during the year the entire district had been free from epidemics of a serious character. Only two cases of typhoid fever occurred and both of these were unquestionably of foreign origin, the patients returning from a distance to be taken ill at home.

Four cases of diphtheria and five of scarlet rash constituted the entire list of contagious diseases. Malarial affections were conspicuous by their entire absence. The total permanent population of this region is three thousand, nine hundred and fifty (3,950) but as it contains within its borders a large number of summer resorts the population during that season is greatly increased. The altitude at Mount Pocono, which may be called the central station of the Delaware, Lackawanna and Western Railroad, is 1,800 feet above the level of the sea; while within a radius of two or three miles from this point accommodations can be found ranging from first-class hotels to comfortable farm houses, with a corresponding tariff of expense, at altitudes varying from 1,400 to 2,200 feet. The soil, being composed of sand, gravel and stone, constitutes a natural filter bed. For this reason the drainage is generally perfect; all surface water disappearing with great rapidity after a heavy rain. Streams of crystal clearness and uniformly cold abound in the valleys, and the hill sides are full of springs. Bacteriological examination of a sample of spring water proved it to be, to all intents and purposes, sterile, not even containing germs

of a harmless nature. Hygrometric tests indicate that the average humidity of the atmosphere in the valleys of this region is distinctly below that of our seaboard cities. The temperature in summer ranges about ten degrees below that of New York and Philadelphia. Phthisical cases are found to do well in this pure atmosphere, and there are many cases on record where those who have gone there in the early stages of the disease have been restored to health.

It will thus be seen that we have, almost at our doors as it were, a natural sanitarium, presenting most of the advantages attached to more distant climates famed for their salubrity, and without the debilitating qualities of those of the far South.

Yours respectfully,

Benjamin Lee, M. D.

Secretary State Board of Health of Pennsylvania.

ABSTRACT OF AN OPINION BY JUDGE WALLING, OF ERIE, ON THE CONSTITUTIONALITY OF THE PENNSYLVANIA MEDICAL LAW.

An opinion given by Judge Walling declares the medical law of Pennsylvania constitutional. In the case of Commonwealth vs. Robert Lee Finn, the medical society of Erie county, acting as complainant, the jury found that Mr. Finn was practicing medicine without conforming to the law. His attorneys thereupon contended that the law was unconstitutional, in that it did not provide for other schools of medicine than the regular, homeopathic and eclectic. The opinion refers to one recently given from the same court, in the case of Commonwealth against Gibson, a similar prosecution under the dental law, and cites the exhaustive opinion of Judge Love in that case, declaring the laws, in the main, similar. The number of Boards of Medical Examiners which should be provided for, is a question for the legislature, and not for the courts. The act would have been valid had it only provided for one board of Medical Examiners, and because the legislature has seen fit to broaden the field, and thus render it less difficult for the applicants to comply with its terms, cannot be a valid objection to the act. It is a mistake to assume that the act limits the practice of medicine in Pennsylvania to three schools. True, there are only three boards of examiners, but after the applicant has successfully passed one of these boards, there is no limit to the school of medicine in which he can practice. Nor can the contention that said act delegates legislation to the Board of Medical Council and to the three Boards of Examiners, be sustained. The Boards of Examiners are directed to make reasonable rules and by-laws; but

such power is inherent in every board or organization. The act fixes the subjects of examination and the manner in which it shall be conducted, and leaves the standard and line of examination and the questions, etc., to be designated by the Medical Council and the Boards of Examiners. Nothing wrong with this arrangement is apparent. It must necessarily be adjusted.

The Legislature cannot dictate the particular questions that must be put at each examination, nor the line or extent of the examination. The court rules may fix the subjects upon which the student shall be examined and the time and mode of examination, but all the rest must be left to the Board of Examiners.

The law may designate the subjects upon which an applicant for a certificate to teach must be examined, and the time and manner of the examination, the line of examination and the particular questions must be left to the superintendent.

The defendant has never presented himself to any of said Board of Examiners as an applicant for examination, neither has he filed in the office of the Medical Council of Pennsylvania a copy of the license issued to him by the State Board of Health of the State of Illinois, accompanied with the affidavit of the president or secretary of said State Board of Health, showing that the standard of requirements adopted by said Board of Health is substantially the same as required by the Pennsylvania act above referred to. So far as I can see, he has not put himself in position to demand the favorable action of said Medical Council of Pennsylvania. But that is not now important.

At any event, defendant is practicing medicine and surgery as a resident physician in this county without a license and without having complied with the Act of Assembly. Should the Medical Council wrongly refuse to act in his case, his remedy would be by a mandamus against the Council or Board of Medical Examiners and not by ignoring the law. A party to whom a liquor license has been wrongly refused cannot sell liquor and then defend on the ground that he should have been granted one. Council for defendant contend with great earnestness that the act is unconstitutional because the 15th section of said act exempts certain parties from its provisions. The act appears to include all resident physicians entering upon general practice in this state. It is a difficult question on which to legislate. The nature of the subject renders necessary certain exceptions of an occasional or temporary character. This branch of the case is so well discussed in the above cited case of *Commonwealth vs. Wilson* that I can add nothing to

it. This statute was carefully drawn, and is well calculated to protect the public. And courts should not be too ready to adopt as valid every objection that critical skill may suggest.

TRI-STATE MEDICAL ASSOCIATION OF MISSISSIPPI, ARKANSAS AND TENNESSEE.

Memphis, Tenn., Feb. 13, 1899.

Dear Sir:—At the regular annual meeting of the Tri-State Medical Association, of Mississippi, Arkansas and Tennessee, held in Memphis, December 20th, 21st and 22nd, 1898, the following resolutions were adopted.

Richmond McKinney, Secretary.

Whereas, the medical laws of the various States have been so perverted by political influences as to give legislative sanction to grotesque, ignorant and dangerous sects of pretenders and charlatans; and

Whereas, the privileges granted to one of the most outrageous aberrations, namely, the so-called Osteopathy, constitute a disgrace to the States in which the "osteopathists" are legally entrenched; and

Whereas, a certain William Smith, Osteopathist, having been roundly denounced, together with his sect, by Parke, Davis & Co., and the *Medical Age*, now brings suit against both for \$25,000 damages; therefore,

Be It Declared the sentiment of the Tri-State Medical Association, of Mississippi, Arkansas and Tennessee, that Parke, Davis & Co., and the *Medical Age* are entitled to the sympathy of its members and of all the medical practitioners; that we wish and expect them to enjoy a complete triumph in repelling this legal assault; and that where-soever a powerful house takes a bold stand in opposition to quackery it promotes the interests of legitimate and honorable Medicine and the welfare of humanity.

IN RE DR. LEUF'S CASE OF PROGRESSIVE MUSCULAR ATROPHY.

To the Editor of the Pennsylvania Medical Journal:

Sir:—It does not seem right that Dr. Leuf's report of "a case of progressive muscular atrophy—cured," published in your last issue should pass unchallenged. That the case reported was one of progressive muscular atrophy is not at all apparent from the account given.

Upon the data Dr. Leuf furnishes, I think no reader of the Journal could feel convinced that the case was one of progressive muscular atrophy; nor, on the other hand, could the diagnosis be denied. The case, so far as appears from the report, might for instance have been one of neuritis, or of localized atrophy from over use.

Twenty-four years is early for the appearance of the disease, and pains and cramps are rare. Dr. Leuf does not tell us how long the pain and atrophy in the hands had existed before he saw the patient, nor their mode of onset, nor whether muscles other than those of the hands were affected in any way, nor whether there were fibrillary twitchings—data which, were they given, would greatly aid the readers of his report in judging as to the correctness of his diagnosis.

As the case stands reported it shows that a man with wasting of the thenar and hypothenar eminences and pains and cramps in his forefingers and thumbs made a recovery under Dr. Leuf's treatment; but that the case was one of progressive muscular atrophy remains to be shown.

Theodore Diller.

Pittsburg, March 4, 1899.

AMERICAN ACADEMY OF MEDICINE.

PRELIMINARY PROGRAM FOR THE COLUMBUS MEETING.

The Committee on Program for the Columbus meeting is much encouraged by the promises made to present papers. It is desired to restrict the number of papers in order to afford ample time for discussions; hence it is requested that any one who is purposing to present a paper at the next meeting, promptly notify a member of the committee of the fact.

At the meeting in Denver two subjects for discussion were suggested, and the comments on the medical service of the army and navy during the war with Spain furnished a third timely topic. There will be, consequently, three special topics presented to the academy for its discussion, the discussion to be opened by a series of carefully prepared papers.

Thus far the following papers have been promised, arranged under the special topic to be discussed:

SPECIALISM IN MEDICINE.

1. "The Ethics of Specialism," by Dr. A. L. Benedict, Buffalo.
2. "How Far Has Specialism Benefited the Ordinary Practice of Medicine," by Dr. L. Duncan Bulkley, of New York.
3. "The Relation of Specialism to General Medicine," by Dr. Solomon Solis-Cohen, of Philadelphia.
4. "The Specialties and Commercialism," by Dr. H. Bert Ellis, of Los Angeles.
5. Subject to be announced, by Dr. G. Hudson Makuen, of Philadelphia.
6. "Specialists and Therapy," by Elmer Lee, M. D., of New York.
7. "Specialism in Its Relation to Other Branches of Medicine," by Dr. G. W. McCaskey, of Fort Wayne, Ind.

ADVERTISING AND THE MEDICAL PROFESSION.

1. "Medical Advertising," by Dr. Robert H. Babcock, of Chicago.
2. "The Ethics of Advertising Applied to the Medical Profession," by Dr. A. Ravogli, of Cincinnati.
3. Subject to be announced, by Dr. J. A. Lichty, of Clifton Springs, N. Y.

THE MEDICAL SERVICE OF THE ARMY AND NAVY.

1. "Aspects of the Late War from a Naval Surgeon's Standpoint," by Dr. W. C. Braisted, U. S. N.
2. Subject to be announced, by Dr. G. G. Groff, now in Puerto Rico.
3. "What Should be Aimed at in a Reorganization of the National Guard System so Far as its Medical Department is Concerned?" by Dr. C. B. Nancrede, late of the U. S. V., of Ann Arbor, Mich.
4. "The Relation of the Medical Profession to the Army and Navy as Developed in the Spanish-American War," by Dr. James A. Pilcher, U. S. A.

MISCELLANEOUS PAPERS.

1. "Remarks on Hospital Organization, With Special Reference to Continuous Service," by Dr. J. C. Wilson, of Philadelphia.

PAPERS ON SUBJECTS NOT YET FURNISHED.

1. By Dr. Edward Jackson, of Denver, President's Address.
2. By Dr. J. R. Smith, U. S. A. Retired.
3. By Dr. V. C. Vaughan, of Ann Arbor.
4. By Dr. C. T. McClintock, of Detroit.
5. By Dr. A. J. Puls, of Milwaukee.

An effort will be made to issue a circular containing a brief synopsis of the papers to be presented, long enough before the meeting to enable those who attend to acquaint themselves with the trend of the papers, and to prepare themselves for a more profitable discussion.

The secretary has one request to make in connection with the Columbus meeting. Experience has shown that it is helpful to know who are expecting to attend the meeting. If, for example, near the time for the meeting, he receives some special information of value to those who may attend, he is able to communicate this, while a general circular might be impracticable. The request is that you at once send him word, if you are planning to go. Of course, if you have already done so, this message is not for you.—*Reprinted from the Bulletin of the American Academy of Medicine.*

It has been estimated that a death under an anæsthetic occurs once in 16,000 administrations in the case of ether; and once in 3,000 in the instance of chloroform.—(Clinical Review.)

Monthly Reports of County Societies.

REPORT OF SUSQUEHANNA COUNTY MEDICAL SOCIETY.

At the second quarterly meeting of the Susquehanna County Medical Society, held at Hallstead, February 7, 1899, Drs. Halsey, Gardner and Lathrop were appointed a committee to prepare a sketch of Dr. F. E. Grattan, and resolutions in regard to him.

IN MEMORIAM—FRANCIS EDMUND GRATTAN, M. D.

Dr. Grattan was the son of Dr. Thomas and Mary Ann Grattan, and was born in Middle Smithfield township, Monroe co., Pa., in 1823. He read medicine with his father, a graduate of the Dublin Medical College, Ireland, and attended lectures at Geneva Medical College, and in New York City. In 1848 he entered into partnership with his father for five years. He married Miss Harriet Jackson, of Carbondale, who died in 1880. Their son, M. G. Grattan, has been dead a number of years. From 1854 until his death, Dr. Grattan practiced at Fleetville, Lackawanna co., Springville, Susquehanna co., Meshoppen, Wyoming co., and the last eight years a second time at Springville, where after a brief illness of pneumonia, he died on the 22d of December, 1898.

April 26, 1882, he married Mrs. Annie T. Wilson, who with a daughter survives him.

During his early life Dr. Grattan confessed his faith in Christ, and during his last years was a worthy member of the Baptist church at Auburn. He was a member of Maple Lodge, No. 992, I. O. O. F.

Funeral services were held at Springville on Christmas, and the interment was at Fleetville.

He joined the Susquehanna County Medical Society in 1892, and at the meeting held Feb. 7, his death was reported. The resolutions prepared are as follows:

"Whereas, It has pleased Almighty God again to remove one of our members by the hand of death, Dr. F. E. Grattan.

Resolved, That in this dispensation of Providence we bow in submission to the divine will, and gratefully record our regard for a worthy member, who for more than half a century had been engaged in the practice of the healing art.

Resolved, That his quiet, unobtrusive manner, industrious habits, fidelity to every trust and generous disposition which secured him many friends, are worthy of our imitation.

Resolved, That the sympathy of this society is extended to the widow and daughter in their bereavement.

*C. C. Halsey,
E. R. Gardner,
H. B. Lathrop,
Committee.*

REPORT OF THE FEBRUARY MEETING OF THE BUCKS COUNTY MEDICAL SOCIETY.

The mid-winter meeting of the society was held at Quakertown, on Wednesday, February 1. The attendance was good.

Prof. Wm. L. Rodman, Professor of Surgery in the Medico-Chirurgical College, Philadelphia, addressed the society upon "The Radical Cure of Hernia." Prof. L. Webster Fox, of the same place, gave a talk upon "Diseases of the Eye."

IN MEMORIAM—ALFRED M. COOPER, M. D.

Dr. Alfred M. Cooper, of Point Pleasant, Bucks Co., Pa., was born in Tinicum township, on September 15, 1830, and died after a lingering illness, on September 15, 1898—his birthday. He was the son of William B. and Elizabeth (Meyer) Cooper, and was related by common ancestry to J. Fennimore Cooper, the novelist, his great-great-grandfather coming from Stratford-on-Avon, England. On the maternal side, he was a descendant of the pioneer, Hans

Meyer, who came from Germany, about 1720, and settled in Upper Salford, Montgomery. He was reared on a farm, and attended the schools in the neighborhood until 19 years of age, when he began teaching school. Being poor, he was compelled to rely upon his own resources. After teaching five years, he began reading medicine with Dr. DeWitt C. Hough, of Frenchtown, N. J., and graduated from Jefferson Medical College, March 8, 1856. He immediately located at Point Pleasant, and lived there continuously amidst the scenes of his youth, until his death—42 years. He succeeded by hard work and strict attention to his profession—prominent characteristics of him during his whole life—in building up a large and lucrative practice.

Dr. Cooper was married, March 21, 1861, to Elizabeth Ridge, who with three children—two sons, both physicians, and a daughter, survive him.

Dr. Cooper took an active part in the promotion of the efficiency of organization of the profession. He was a member, always in good standing, of the Bucks County Medical Society, since November 19, 1856. He was elected its president in 1878-'79, and '85, and was seldom absent from the regular meetings. Dr. Cooper became a member of the State Society in 1881, and was chosen second vice-president in '88. He was also a member of the American Medical Association, and a charter member of the Lehigh Valley Medical Association, and inspector of the State Board of Health.

In religion, Dr. Cooper was an active member in the Baptist church since 1854. He was a strong advocate of a higher education, and an ardent supporter of the public schools. He was always a busy man, enterprising and ever ready to promote public improvement, and during his professional career, accumulated a comfortable competence. As a physician he possessed good judgment, and was equally successful; towards his fellow practitioners, he always acted honorably; he was a particular friend

to the younger members of the profession. In debate, he was universally courteous to his adversary, and was a man of firm convictions, with a will of his own, and usually succeeded. It was his constant aim during his professional career to be a good general practitioner and a useful citizen. The ethical side of the profession appealed strongly to him; its tradition and unwritten laws of conduct and professional courtesies found in him a strong supporter. Dr. Cooper had a kindly disposition, and a genial manner; he had the good-will, esteem and confidence of all who knew him. Thus, briefly stated, is the sketch of a useful man, with a useful life well spent.

A. F. Myers, Sec.

REPORT OF THE YORK COUNTY MEDICAL SOCIETY.

The society met in regular session on the first of February.

Dr. W. F. Bacon, of York, gave an interesting talk on the modern treatment of wounds, paying special attention to the most recent methods of sterilization and disinfection, as related to the successful treatment of wounds.

Dr. J. F. Klinedinst, of York, followed with an instructive address on ophthalmia neonatorum. He said in this disease it is all important to begin treatment early. One-fourth of the blind in asylums lost their sight by this disease, or gonorrhœal ophthalmia of adults. Infection in the majority of cases of ophthalmia neonatorum takes place while the child is passing through the birth canal. First there is slight redness of the conjunctiva, mucous discharge and swelling of the eyelids, which causes them soon to bulge, and with the discharge of pus, which follows, makes the closed eyes to appear like abscesses. The disease is in most cases due to the gonococcus, but may be due to the pneumococcus, and even to various other pus organisms. If the cornea becomes involved, it will appear hazy from infiltration of inflam-

matory exudates, which process, if not checked, will go to ulceration and even perforation of the eye-ball, and total destruction of the eye. Gonorrhœal ophthalmia generally sets in from a few hours to a few days after birth.

A catarrhal inflammation of the conjunctiva may set in from one to three weeks after birth, due to some form of infection, but not due to the gonococcus. As soon as ophthalmia neonatorum is suspected, preventative measures should be instituted, and at this time prevention is easy. If the disease is suspected, a drop of a two per cent. solution of nitrate of silver should be dropped into the eye. This will do no harm, unless an abrasion of the cornea exists, when a deposit of silver may occur. Some claim infection to occur in utero; some advocate vaginal douches as a preventive measure, but since the vagina cannot well be made aseptic after an infective vaginitis, this measure is not a safe precaution, and is not as effective as the instillation of the nitrate of silver solution into the eye that is suspected to be diseased. Should the disease occur, cleanse the eye every half hour with bichloride solution, 1-10,000 or 1-8,000, and follow with a drop of a two per cent. solution of nitrate of silver. As the purulent discharge lessens, cleanse the eye at longer intervals. If this treatment does not lessen the discharge of pus, cleanse the eye with a bichloride solution of 1-5,000, and follow with the silver solution as before. If bichloride solution does not control the formation of pus, some men recommend the instillation of peroxide of hydrogen, either pure or diluted with an equal quantity of water. In a period of three days to a week this treatment ought to control the disease. If treatment is relaxed too soon, the disease will rapidly become worse, and the eye may be lost. If the cornea becomes involved, it will appear steamy, and then the pupil should be dilated with a solution of atropine, two grains to the ounce. If the cornea looks like

ground glass, due to infiltration, you may expect it to clear up, but sight will not be perfect. If opacities form, the bichloride douches should be continued for a long time, as they stimulate absorption, and assist in clearing up the cornea. Dusting the cornea with calomel has the same effect. Some claim formalin, 1-1,000 to 1-500, instilled into the eye a good preventive measure.

DISCUSSION.

Dr. I. C. Gable, of York, said that probably one-half of the blind in asylums lost their sight by this disease. Physicians are at fault if they neglect to inform nurses as to the proper care of the eyes of the newly-born, and if they neglect to institute preventive measures when the disease is suspected. In spite of every care some cases will sometimes occur. In cases where there is a history of gonorrhœal infection, an anti-partum vaginal douche should be given. Special attention should be paid to the husband, if suffering from gonorrhœa. Physicians should also instruct adults having gonorrhœa, of the danger of contracting gonorrhœal ophthalmia.

Dr. Wesley C. Stick, of Glenville, said that while some men advocate the instillation of a solution of nitrate of silver, containing ten grains to the ounce, into the eyes of all newly-born children, whether ophthalmia neonatorum be suspected or not, he believes it to be not a good rule, and often the cause of a great deal of unnecessary irritation.

Dr. Roland Jessop, of York, reported a case of gonorrhœal arthritis, in which the application of the ice-cap proved much more effective in lessening the pain and temperature, and in the improvement of the patient in general than any of the remedies usually employed in such cases.

Dr. Wesley C. Stick reported a case of Addison's disease. The patient died after an illness of six months.

An interesting and a rather remarkable clinical feature of the case was a total absence of a radial pulse at both wrists for

twelve days prior to death, and yet there was evidence of a fair circulation in the hands.

G. E. Holtzappel, Cor. Sec.

PROGRAM OF THE LACKAWANNA COUNTY MEDICAL SOCIETY FOR THE YEAR 1899.

- January 31.—Appendicitis, R. J. Gibbons, M. D.
 February 28.—Eruptions of Face, G. D. Murray, M. D.; Epi and Hypospadias, C. E. Thompson, M. D.
 March 14.—Examining for Life Insurance, D. A. Capwell, M. D.; Fissure of Rectum, C. D. Shumway, M. D.
 March 28.—Diphtheria, W. M. Reedy, M. D.
 April 11.—La Grippe—A Distinctly Contagious Disease, G. E. Dean, M. D.; Typhoid Fever, D. H. Jenkins, M. D.
 April 25.—Syphilis of Nervous System, L. Wehlau, M. D.; Some Idiosyncrasies of Our Patients, M. J. Williams, M. D.
 May 9.—Malformation of Heart, W. H. McGreevey, M. D.; Pleurisy, J. J. Carroll, M. D.
 May 23.—Operation for Deviation of Septum, Carl Seiler, M. D.; Fractures Involving Elbow-Joint, E. Z. Bower, M. D.
 June 13.—Acute Mycotic Diarrhoea, F. F. Arndt, M. D.; Intestinal Digestion, L. S. Barnes, M. D.
 June 27.—Uterine Hemorrhages, G. E. Roos, M. D.; Obstetrical Hemorrhages, L. H. Gibbs, M. D.
 July 11.—Puerperal Sepsis, F. L. Van Sickle, M. D.; Medical Claims of So-called Christian Science, J. C. Bateson, M. D.
 August 8.—Diabetes Millitus, Thos. W. Kay, M. D.; Dysentery, W. A. Payne, M. D.
 September 12.—The Incision in Laparotomy, Geo. M. Brown, M. D.; ———, L. M. Gates, M. D.
 September 26.—Care of the Eyes in Childhood, James Stein, M. D.; Traumatic Injuries of Cornea, C. H. Fisher, M. D.
 October 10.—Diseases of the Antrum of Highmore, J. L. Wentz, M. D.; Purulent Ophthalmia, Ed Grant, M. D.
 November 14.—Sero-Therapy, F. C. Hall, M. D.; ———, H. V. Logan, M. D.; ———, H. D. Gardner, M. D.
 November 28.—Treatment of Parenchymatous Nephritis with Uraemia, R. B. McKeage, M. D.; Croupous Pneumonia, J. T. McGrath, M. D.
 December 12.—The Medical Profession and the Social Evolution, J. Zlupas, M. D.; ———, J. E. O'Brien, M. D.
 January 9.—Election of Officers; Address by President, P. F. Gunster, M. D.
A. M. Smith, M. D., Sec.

Current Medicine.

FASTING IN ACUTE DISEASE.

Man and animals are rendered more resistant to the action of bacteria and their toxins by abstaining from food within certain definite limits. Even milk when not properly digested undergoes such changes, due to fermentation and putrefaction, that the resistance to bacterial and toxin influence on the part of the tissues and their secretions is lessened. In pneumonia particularly, much benefit may be derived from fasting conjoined with gastro-intestinal disinfection.—(Dominicis, Wiener Med. Presse, No. 18, 1898.—Med. Record.)

GUAIACOL FOR EPIDIDYMITIS.

The treatment of epididymitis with local applications of guaiacol is a distinct advance over the older methods of hot fomentations, hop poultices, etc. When seen in the early stages two or three applications of guaiacol during the day will often seem to entirely calm down the entire inflammatory process. The method of using guaiacol is to paint about fifteen drops of the pure drug over the cord of the affected side; and then to use half a dram or so of a mixture of guaiacol and glycerine over the scrotum. This may be repeated twice daily, and four or five applications are usually sufficient. The heat and pain rapidly subside, and recovery, under reasonable care, is generally prompt.—(Clinical Recorder.)

CARIES OF THE TEETH AND DISEASES OF THE STOMACH.

Aaron (*Charleston Med. Jour.*, Oct., 1898) states that caries is produced by the acid fermentation set up by micro-organisms. Over 22 kinds of germs, concerned in caries, have been isolated. The empty stomach always contains germs, and, contrary to the general belief, the HCl of the gastric juice, while inhibiting up to a certain degree the process of fermentation, does not completely destroy the germs in the stomach. When

caries exists, some of the germs from the teeth may become incorporated with the food, enter the stomach and there develop giving rise to various disturbances. The multiplication of the micro-organisms and their products induce a state of hyperemia, and then a hypertrophic condition of the mucous membrane of the stomach, which becomes covered with a heavy, viscid, ropy, tenacious mucus. The food is not digested and acts as an irritant. The proteolytic process yields to fermentation. It must be remembered that not all micro-organisms that excite inflammation are pyogenic. Germs which usually produce pus in interstitial tissue, developing on mucous membranes only produce a chronic inflammation.—(International Medical Magazine.)

THE INVENTION OF SPECTACLES.

Who first invented spectacles? These aids to vision appear to have come into use about the fourteenth century. The earliest reference to them is in the work of Bernard Gordon, Professor at Montpellier, who speaks of a collyrium devised by him which allowed a person to read without spectacles. In 1360 Guy de Chauillac in his treatise on surgery refers to the use of lenses. The invention of spectacles is sometimes attributed to Roger Bacon, who died in 1294. Further research, however, has shown that in 1285 Savino degli Armati, a Florentine, worked glass into the form of a lens as a help to vision. For him, therefore, may justly be claimed the honor of having invented spectacles. He died at Florence in 1317, and was buried in the Church of Santa Maria Maggiore. On his stone is the following inscription:

QUI GIACE
SAVINO DEGLI ARMATI
DI FIRENZE
INVENTORE DEGLI OCCHIALI
DIO GLI PERDONI LE PECCATA
ANNO D MCCCXVII.

(Here lies Savino degli Armati, of Florence, inventor of spectacles. May God forgive him his sins! A. D. 1317.)—British Medical Journal.—(Dietetic and Hygienic Gazette.)

Official Transactions.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

[Organized 1848.

Incorporated Dec. 20, 1890.]

OFFICERS AND MEMBERS OF THE FIFTY-SEVEN AFFILIATED COUNTY SOCIETIES.

[A date appended to the name of a member indicates the date of membership in the State Society.]

ALLEGHENY COUNTY SOCIETY.

(Organized 1866. Incorporated Jan. 30, 1892.)

President.....J. Aubrey Lippincott, 435 Penn Ave.

V. Presidents..John S. Mabon, 515 Penn Ave.

J. Purd Kerr, 2725 Carson St.

Secretary.....Joseph M. Douthett, 219 Sixth St.

Ass't Sec'y....William B. Irish, 127 N. Highland Ave.

Cor. Sec'y.....Elmer E. Wible, Munhall.

Treasurer.....Ewing W. Day, 820 Penn Ave.

Censors.....J. Chris Lange, 129 Ninth St.

Joseph D. Thomas, 77 S. 13th St.

George W. Allyn, 515 Penn Ave.

Stated meetings at Dispensary Hall, 440 Sixth Ave., Pittsburg. For business, the third Tuesday in January, April, July and October, at 3 P. M. Election of officers in January. Scientific meetings the third Tuesday of February, March, May, June, August, September, November and December, at 8 P. M.

MEMBERS (338)

(Pittsburg is the P. O. when the street address only is given.)

Ahlens, George L., Cedar and North Aves., Allegheny.

Allison, Robert W., Station D.

Allyn, George W. (1890), 515 Penn Ave.

Anderson, C. O., 7028 Frankstown Ave.

Anderson, J. H. (1897), 4630 Fifth Ave.

Ankrum, Louis F. (1898), 5201 Penn Ave.

Arn, Gottfried, 306 North Ave., Allegheny.

Arnhold, Michael A., 1809 Carson.

Asdale, William J. (1868), 2107 Penn Ave.

Ayres, Samuel (1883), 820 Penn Ave.

Babb, Walter M., 157 Robinson St., Allegheny.

Bair, George E., Braddock.

Barchfield, Andrew J., 106 S. 18th.

Barr, John A. (1896), McKee's Rocks.

Bartilson, Benjamin M., Braddock.

Batten, John M. (1876), Fifth Ave. and Ross St.

Beach, William M. (1896), 89 Arch St., Allegheny.

Beatty, Robert C., 6227 Penn Ave.

Bennett, Oliver J. (1897), 282 Western Ave., Allegheny.

Beswick, George L., Wilmerding.

Blachley, Oliver L. (1897), Station D.

Blackburn, James P., 525 Walnut, McKeesport.

Blumberg, Albert (1890), 819 Wylie Ave.

Blume, Frederick (1897), 118 Liberty St., Allegheny.

Bode, William C., 2005 Carson.

Boggs, Joseph C., 76 Penna. Ave., Allegheny.

Borland, Elmer B. (1896), 3464 Penn Ave.

- Boucek, Anthony J., 62 Chestnut St., Allegheny.
 Boyce, D. C., Riverside, Allegheny.
 Boyce, John W., Atwood St., near Forbes St.
 Brown, Nathaniel W., 182 37th St.
 Buchanan, John J. (1890), 515 Penn Ave.
 Burkett, Albert H., McKees Rocks.
 Burkett, J. H., Remington.
 Burleigh, William T. (1890), 1809 Carson.
 Burns, Richard G., 72 Ohio St., Allegheny.
 Burroughs, Hamilton S., 300 N. Highland Ave.
 Cairns, Daniel H., Homestead.
 Calhoun, Bruce L., Verona.
 Cameron, Markley C. (1897), 190 43d St.
 Campbell, C. L., Sheridanville.
 Carothers, W. M., Braddock.
 Carpenter, Thomas F., Carnegie.
 Cartwright, Harry B., 6101 Penn Ave.
 Cathcart, W. B. (1890), 203 Frankstown Ave.
 Chessrown, A. V. (1897), 5443 Fifth Ave.
 Christy, T. Chalmers (1897), 820 Penn Ave.
 Clark, Astley C., 3420 Butler.
 Clark, Harry E., Sheridanville.
 Clark, Henry H., 3420 Butler.
 Clarke, Robt. C., 5945 Penn Ave.
 Clarke, Samuel D., Verona.
 Clementson, William A., Braddock.
 Cole, William W. (1878), 70 Arch St., Allegheny.
 Connell, James G. (1890), 3519 Fifth Ave.
 Cope, Pierson C., Braddock.
 Creaven, A. Matthew F., 723 Carson.
 Crombie, John B. (1897), 54 Monterey St., Allegheny.
 Cunningham, Daken W. (1897), Avalon.
 Curry, Glendon E., 820 Penn Ave.
 Daggette, A. S., 281 Craig.
 Daly, William H. (1871), 516 Market.
 Davidson, James E., 37 Lowry St., Allegheny.
 Davis, M. S., 3608 Boquet.
 Davis, Thomas D. (1890), 6020 Penn Ave.
 Davison, James E. (1890), 7042 Frankstown Ave.
 Day, Ewing W. (1897), 820 Penn Ave.
 Denslow, Walter B., Rankin and California Aves., Allegheny.
 Dickson, Joseph Z., 638 Penn Ave.
 Diller, Theodore (1895), 820 Penn Ave.
 Disque, Thomas L., 1245 Negley Ave.
 Douthett, Joseph (1897), Smith Block, 219 Sixth.
 Doyle, J. A., Homestead.
 Dravo, Louis H., 6223 Penn Ave.
 Duff, John M. (1890), 2006 Carson.
 Duncan, James A. (1890), 1738 Penn Ave.
 Duncan, Joseph L., 435 Penn Ave.
 Dunn, James C. (1875), 4062 Penn Ave.
 Easton, Andrew (1876), 58 Montgomery Ave., Allegheny.
 Eaton, Percival J., 131 N. Highland Ave.
 Elterich, Theodore J., 70 Madison Ave., Allegheny.
 Emmerling, Charles (1878), Rebecca and Liberty Sts.
 Emmerling, Karl A. (1897), Rebecca and Liberty Sts.
 English, William T. (1895), 321 Fifth Ave.
 Espy, John S., 4751 Liberty Ave.
 Ewing, William B. (1898), 820 Penn Ave.
 Ewing, W. Brown, 515 Penn Ave.
 Faulkner, Richard B., 23 Ohio St., Allegheny.
 Fife, S. John S., Bridgeville.
 Fife, Thomas M., Bennett.
 Finkelpearl, Henry, 1918 Fifth Ave.
 Fischer, Erwin, 5113 Liberty Ave.
 Fogleman, Adam P., Munhall.
 Forcee, Margaret P., 76 Arch St., Allegheny.
 Foster, Watt, 1308 Wylie Ave.
 Foster, Walter R. (1897), Crafton.
 Foster, William S. (1868), 252 Shady Ave.
 Frederick, William, Elliott Boro.
 Fulton, Henry D., 5149 Butler.
 Fundenberg, W. F., 508 Lewis Block.
 Gardiner, Francis G., 4919 Butler.
 Gaub, Otto C., 5749 Ellsworth Ave.
 Gilliford, R. H. (1880), 231 Beaver Ave., Allegheny.
 Golden, John P. (1897), Georgetown, S. C.
 Goodstone, Morris A., 919 Fifth Ave.
 Goulding, Charles O., 6202 Penn Ave.
 Graham, Norman R., Main St., Sharpsburg.
 Green, John J. (1890), 2530 Penn Ave.
 Greenfield, Willard T., 537 Homewood Ave.
 Haben, J. L., McKeesport.
 Hageman, John A., 43 Boggs Ave.
 Hager, Christian, Braddock.
 Hallock, William E. (1884), Fifth & Aiken Aves.
 Hamilton, William R. (1898), 128 Ninth St.
 Hardtmeyer, Hans R., 132 Liberty St., Allegheny.
 Hartt, S. Whitfield, McKeesport.
 Hawkins, John A., 61 Jackson St., Allegheny.
 Haworth, Elwood B. (1894), 133 Hazelwood Ave.
 Hays, George L., 5004 Penn Ave.
 Hazzard, Thomas L. (1892), 56 Montgomery Ave., Allegheny.
 Heard, James D., 6101 Penn Ave.
 Hechelman, Herman W. (1890), 106 Washington St., Allegheny.
 Heckel, Edward B., 524 Penn Ave.
 Hengst, David A. (1878), Denver, Colo.
 Herron, Richard G. (1891), 128 Ninth St.
 Hersman, Christopher C. (1894), 2203 Carson.
 Hiett, George W. (1898), 1225 Wylie Ave.
 Hierholzer, John C., 52 Cedar Ave., Allegheny.
 Hitzrot, Henry W. (1896), McKeesport.
 Hoffman, D. C., Military Home, Ohio.
 Hoffman, J. H. (1897), 111 Steuben.
 Holman, Samuel, 133 Hazelwood Ave.
 Hopkins, Alfred J., 6101 Penn Ave.
 Hopkins, Herbert J., 6101 Penn Ave.
 Huggins, Raleigh R. (1898), Middle St., Sharpsburg.
 Humphrey, Walter N., 611 Main St., Sharpsburg.
 Hunter, J. Powell, 163 Sandusky St., Allegheny.
 Hunter, William L., Turtle Creek.
 Huselton, Elmer C. (1880), 19 Stockton Ave., Allegheny.
 Huselton, William S. (1870), 515 Penn Ave.
 Hutchinson, H. A. (1890), Dixmont.
 Iland, Edward M., Coraopolis.
 Ingram, William H., 249 Federal St., Allegheny.
 Irish, William B., 127 N. Highland Ave.
 Irons, W. R., 143 Taggart St., Allegheny.
 Irwin, Joseph C., 802 Penn Ave.
 Jackson, Chevalier Q., 417 Sixth Ave.
 Jackson, Shirls B., 417 Sixth Ave.
 Jennings, Samuel D., Sewickley.
 Johnson, George C., 3606 Fifth Ave.
 Johnson, T. D. Barton, 149 Larimer Ave.
 Johnston, James I. (1898), 390 S. Craig.
 Johnston, William E. (1890), Etna.
 Jones, Clement R., 270 Craig.
 Jones, Matthew O. (1890), 811 Wylie Ave.
 Jones, William W. (1884), 251 Western Ave., Allegheny.
 Kelly, George M., Sharpsburg.
 Kerr, J. Purd, 2725 Carson.
 King, Cyrus B., 228 Western Ave., Allegheny.
 Kirk, James A., Carrick.

- Kirk, Thomas T., 4908 Liberty Ave.
 Kirk, William H., 2421 Carson.
 Kniffler, Oscar, 1910 Fifth Ave.
 Knox, William F. (1867), McKeesport.
 Kœller, Ferdinand, 618 Roland.
 Kœnig, Adolph (1890), 108 Ninth.
 Lange, J. Chris (1883), 129 Ninth.
 Langfitt, William S. (1896), 688 Preble Ave., Allegheny.
 Larimer, William T. (1896), 72 Western Ave., Allegheny.
 Leeke, Henry L., 63 Cedar Ave., Allegheny.
 LeMoyné, Frank (1878), 5431 Fifth Ave.
 Lewin, Adolph L. (1898), 3513 Butler.
 Lippincott, J. Aubrey (1882), 435 Penn Ave.
 Lindermann, Adam, 559 Homewood Ave.
 Litchfield, Lawrence, Fifth Ave. and Neville.
 Logan, Edward P. (1897), 211 Federal St., Allegheny.
 Look, Henry A. (1897), 1323 Fifth Ave.
 Lyon, Alvin K., Bennett.
 McCandless, J. G. (1896), 1520 Center Ave.
 McCarrell, James (1878), 67 Bidwell St., Allegheny.
 McCarrell, James R., 67 Bidwell St., Allegheny.
 McCleary, W. W., Bellevue.
 McCombs, William H., 1603 Carson.
 McCormick, John C., 50 Shiloh.
 McCready, Joseph A., 2827 Penn Ave.
 McCready, James M., Sewickley.
 McCreight, W. G., 170 Sandusky St., Allegheny.
 McCurdy, Stewart L., 515 Penn Ave.
 McElroy, James C., 90 Arch St., Allegheny.
 McGraw, Edward B., 2239 Fifth Ave.
 McGrew, Robert L. (1898), 52 Montgomery Ave., Allegheny.
 McKee, Joseph O., McKeesport.
 McKelvey, William H., 420 Sixth Ave.
 McKennan, Moore S. (1897), 3614 Boquet.
 McKennan, Thomas M. T. (1890), 524 Penn Ave.
 McKibben, Samuel H., 4112 Penn Ave.
 McLenahan, Thomas M., Greenfield Ave.
 McManus, Thomas F., 1048 Fifth Ave.
 McNaugher, Samuel N., Perrysville Ave., Allegheny.
 McNeil, George W. (1890), 275 Frankstown Ave.
 McQuaid, J. R., Leetsdale.
 Mabon, John S. (1890), 515 Penn Ave.
 Macfarlane, James W. (1890), 3617 Butler.
 Marshall, William N., Aspinwall.
 Mathiot, Edward B. (1897), 820 Penn Ave.
 Matlack, Frank H. (1898), Duquesne.
 Matson, Eugene G. (1897), Bureau of Health.
 Means, Robert M., 255 St. Clair.
 Mercur, William H., 516 Market.
 Miller, James A., Braddock.
 Miller, Oliver L. (1897), 221 North Ave., Allegheny.
 Miller, R. Franklin B., 69 Arch St., Allegheny.
 Miller, W. Newlon, 1905 Carson.
 Milligan, Samuel C., Smith Block, 219 Sixth.
 Montgomery, Ellis S. (1897), Smith Block, 219 Sixth.
 Moore, Dunlop, 6322 Station St.
 Morris, Alonzo F. B., 515 Penn Ave.
 Morrison, Robert, Oakdale.
 Mowry, William B., 212 North Ave., Allegheny.
 Moyer, Irwin J. (1897), 923 Fifth Ave.
 Munford, J. R., 5014 Penn Ave.
 Murdoch, Frank H., 6101 Penn Ave.
 Murdoch, J. Floyd, 515 Penn Ave.
 Murdoch, James H., 4407 Butler.
 Myers, Frank F., 168 Arch St., Allegheny.
 Nason, F. Thos., McKeesport.
 Neff, Edward L., 77 Arch St., Allegheny.
 Nelan, James R., 6223 Penn Ave.
 Nettleton, DeWitt B., Sewickley.
 Newlin, Harry S., McKeesport.
 Norris, William J., 5144 Butler.
 O'Brien, William D. (1897), 99 Hazlewood Ave.
 Ohail, Joseph C. (1898), 25 Montgomery Ave., Allegheny.
 Patterson, Stewart (1894), 5604 Ellsworth Ave.
 Pershing, Frank S., Station D.
 Pettit, Albert (1890), 810 Penn Ave.
 Phillips, Frank J., 2139 Wylie Ave.
 Phillips, John S., 54 Chestnut St., Allegheny.
 Pollock, William F., 1912 Carson.
 Pool, Stewart N., 129 Collins Ave.
 Porter, John, 5th Ave. and Walnut, McKeesport.
 Price, Albert D., 127 Hazelwood.
 Price, B. Frank, Braddock.
 Price, Joseph H., DeHaven.
 Rahausen, George G. (1886), 2519 Carson.
 Ralston, B. Stewart, Penn Ave. and Main.
 Rankin, David N. (1867), 273 Western Ave., Allegheny.
 Reed, I. Bedout, Crafton.
 Reed, John O., 25 Wabash Ave.
 Rex, Thomas A. (1897), 1323 Fifth Ave.
 Rickenbach, John F., 524 Penn Ave.
 Rigg, John E., Station D.
 Riggs, Elliott S. (1876), 170 Penna. Ave., Allegheny.
 Riggs, William J., 209 Market St., Allegheny.
 Ritchey, John B., 161 Sandusky St., Allegheny.
 Robertson, Stewart, 43 Montgomery Ave., Allegheny.
 Rorbeson, William F. (1892), 820 Penn Ave.
 Rugh, Wilson J., 109 Park Ave.
 Ryall, Thomas M., 32 Wabash.
 Sahn, William K. T. (1897), 730 New Grant.
 Schlensog, Joseph J., 1616 Fifth Ave.
 Schooley, A. Wiles, Braddock.
 Scott, William, New Texas.
 Scott, William McC., 6101 Penn Ave.
 Semple, John, Station D.
 Shanor, John D., 58 Chestnut St., Allegheny.
 Shaw, Charles S. (1890), 410 Penn Ave.
 Shaw, James P., 1634 Fifth Ave.
 Shaw, William C. (1884), 1009 Wylie Ave.
 Shields, William H., 6229 Penn Ave.
 Shillito, George M. (1890), 166 Sandusky St., Allegheny.
 Simonton, Thomas G. (1897), 923 Fifth Ave.
 Simpson, Frank F. (1897), 524 Penn Ave.
 Small, Edward H. (1891), 100 Negley Ave.
 Snively, Whitmore (1878), 515 Penn Ave.
 Soffel, August, 221 East Carson.
 Sohn, Charles, 4902 Liberty Ave.
 Speer, Alexander M., First Nat'l Bank Bldg., Wood St.
 Speer, George A., Etna.
 Spence, Jesse A., Bissell Block.
 Srodes, James L., Station D.
 Staub, Franklin N., 2910 Penn Ave.
 Sterrett, John K., 122 Collins Ave.
 Sterrett, John P. (1881), 6200 Penn Ave.
 Stewart, E. C., 5604 Penn Ave.
 Stewart, John G., Pitcairn.
 Stewart, R. C. M., 202 Frankstown Ave.
 Stewart, Robert W. (1890), Park Bldg.
 Stewart, William S., Braddock.
 Stieren, Edward, Smith Block, 219 Sixth.

Stillwagen, Charles A., 4403 Penn Ave.
 Stone, William L., 224 Fifth.
 Strassly, Francis X., 50 Chestnut St., Allegheny.
 Sturm, Samuel A., 508 Larimer Ave.
 Summey, F. F., McKeesport.
 Sweeney, Gilliford B. (1897), 65 Washington Ave.
 Swope, Lorenzo W., 267 Meyran Ave.
 Taylor, Robert L., Bureau of Health.
 Taylor, William B., 1019 Walnut St., McKeesport.
 Taylor, W. VanMetre, McKeesport.
 Thomas, Joseph D. (1872), 77 S. 13th.
 Thompson, J. Calvin, 2nd Nat'l Bank Bldg.
 Todd, Frank L., 73 Arch St., Allegheny.
 Trevasakis, Abraham L., Turtle Creek.
 Turfley, George G., 41 Arthur.
 Turnbull, Thomas, Jr. (1895), 314 Western Ave., Allegheny.
 VanHorn, Cornelius E., 310 Frankstown Ave.
 VanKirk, Theophilus R. (1879), McKeesport.
 Vaux, George H., 2163 Centre Ave.
 Veeder, Andrew T., 59 Dithridge.
 Vincent, C. Jane (1897), 159 North Ave., Allegheny.
 Vincent, James R., 220 Collins Ave.
 Voight, Charles H., 55 Monterey St., Allegheny.
 Wade, Frank H. (1897), 230 North Ave., Allegheny.
 Walker, Robert L., Carnegie.
 Walker, Robert L., Jr. (1896), Carnegie.
 Walker, William E., McKeesport.
 Walker, William J., Homestead.
 Walker, William K., Dixmont.
 Wallace, William C. (1897), Ingram.
 Wallis, Alfred W., 1374 Second Ave.
 Ward, Marshall R. (1897), 6117 Station.
 Weber, William H., 1001 Carson.
 Welch, John C., Bellevue.
 Werder, Xavier O. (1892), 524 Penn Ave.
 Wessels, John L., 65 Madison Ave., Allegheny.
 Wible, Elmer E. (1898), Munhall.
 Wiggins, Samuel L. (1897), McKeesport.
 Willets, Joseph E. (1894), 820 Penn Ave.
 Williams, J. A., McKees Rocks.
 Williams, Roger (1890), 6000 Penn Ave.
 Williamson, Joseph H., 516 Market.
 Wilson, Henry, 4068 Penn Ave.
 Wishart, Charles A. (1897), 820 Penn Ave. 34
 Witherspoon, James, 104 Buena Vista St., Allegheny.
 Woodward, William M., Fifth Ave., McKeesport.
 Wright, James H. (1898), 992 California Ave., Allegheny.
 Zellar, Albert F., McKeesport.

ARMSTRONG COUNTY SOCIETY.

(Organized March 28, 1876.)

President.....John T. Deemer, Manorville.
 V. President...James T. McCulloch, Freeport.
 Secretary.....Frederick C. Monks, Kittanning.
 Treasurer.....Thomas M. Allison, Kittanning.
 Censors.....John A. Armstrong, Leechburg.
 Thomas M. Allison, Kittanning.
 John K. Maxwell, Worthington.
 Samuel A. S. Jessop, Kittanning.
 Devilleo O. Todd, Cochran's Mills.

Stated meetings at Kittanning, second Tuesday in March, June, September and December. Election of officers in March.

MEMBERS (29)

Allison, Thomas M. (1876), Kittanning.

Armstrong, John A. (1891), Leechburg.
 Carnahan, John L., Apollo.
 Clark, Omer C. (1897), Worthington.
 Deemer, John T. (1883), Manorville.
 Henry, Thomas J. (1891), Apollo.
 Hosterman, J. K., Ford City.
 Jessop, Charles J. (1890), Kittanning.
 Jessop, Samuel A. S. (1882), Kittanning.
 Keller, Thomas W., Ford City.
 King, Jesse H., Worthington.
 McBryar, William (1890), Apollo.
 McBryar, William L., Apollo.
 McCafferty, William H. (1891), Freeport.
 McCulloch, James T., Freeport.
 McCurdy, Robert L., Freeport.
 McKee, John C., Slatelick.
 McKee, Thomas N., Kittanning.
 Maxwell, John K. (1880), Worthington.
 Monks, Frederick C. (1892), Kittanning.
 Newcome, T. H., Rimer.
 Painter, Alonzo P. N., Kittanning.
 Patton, J. M. (1897), Kelley Station.
 Powers, Henry K., Kittanning.
 Rogers, Charles A. (1898), Freeport.
 Stockdill, Thomas F. (1897), Rural Valley.
 Stute, John E., Parker City.
 Todd, Devillo O., Cochran's Mills.
 Wyant, John B. F. (1896), Templeton.

BEAVER COUNTY SOCIETY.

(Organized November 23d, 1855.)

President.....J. Burt Armstrong, Beaver.
 V. Presidents..John J. Allen, Monaca.
 George J. Boyd, Ellwood City.
 Secretary.....Addison S. Moon, Beaver Falls.
 Treasurer.....H. M. Shallenberger, Rochester.
 Censors.....W. W. Simpson, New Brighton.
 James R. Gormley, Monaca.
 G. Fay Boal, Freedom.

Stated meetings the second Thursday of each month at 2 P. M. Election of officers in January.

MEMBERS (39)

Ague, John B., Beaver Falls.
 Allen, John J., Monaca.
 Armstrong, J. Burt, Beaver.
 Boal, G. Fay, Freedom.
 Boal, George Y. (1876), Baden.
 Boyd, George J. (1898), Ellwood City, (Lawrence Co.)
 Coffin, John W., Beaver Falls.
 Cristler, George, Hookstown.
 Davis, J. H., Hookstown.
 Davis, J. M. (1897), Darlington.
 Engle, O. C., New Sheffield.
 Gale, Constantine T., New Brighton.
 Gibson, Charles E. (1897), Freedom.
 Gormley, James R., Monaca.
 Grim, William S. (1890), Beaver Falls.
 Hazzard, L. R., New Galilee.
 Kerr, Franklin D., Hookstown.
 Kring, Sylvester S., Beaver Falls.
 Langfitt, William J. (1864), 688 Preble Ave., Allegheny, (Allegheny Co.)
 Louthan, James S., Beaver Falls.
 McCarter, Joseph D. (1864), Beaver Falls.
 McConnell, G. M., Seventy Six.
 McConnell, Hiram S. (1878), New Brighton.
 Marquis, David S. (1863), Rochester.
 Moon, Addison S., Beaver Falls.
 Nye, Hiram W., Enon Valley.
 Porter, William H., Beaver.

Rose, David, Baden.
 Shallenberger, H. M. (1897), Rochester.
 Shugart, Guy, Rochester.
 Simpson, Theodore P. (1888), Beaver Falls.
 Simpson, William C. (1895), New Brighton.
 Simpson, W. W., New Brighton.
 Strouss, Ulysses S., Beaver.
 Sturgeon, Samuel D. (1897), New Galilee.
 Townsend, Leroy S., Beaver Falls.
 Watterson, Robert W., Darlington.
 White, James K. (1884), New Brighton.
 Wilson, Jefferson H. (1894), Beaver.

BEDFORD COUNTY SOCIETY.

(Organized 1883—Reorganized 1895.)

President.....Simeon H. Gump, Bedford.
 V. Presidents...C. P. Calhoun, Altoona.
 J. T. Smith, Chaneysville.
 Secretary.....Walter F. Enfield, Bedford.
 Cor. Sec'y.....F. S. Campbell, Hopewell.
 Treasurer.....William P. S. Henry, Everett.
 Censors.....Americus Enfield, Bedford.
 William P. S. Henry, Everett.
 A. J. Bowser, New Baltimore.

Stated meetings the first Tuesday of January,
 March, May, July, September, and November, at
 Bedford. Election of officers in May.

MEMBERS (16)

Bowser, A. J., New Baltimore.
 Breneman, M. B., Saxton.
 Breneman, William, Saxton.
 Bruner, Harry B., Osterburg.
 Calhoun, C. P., Altoona, (Blair Co.)
 Campbell, F. S., Hopewell.
 Enfield, Americus (1887), Bedford.
 Enfield, Walter F., Bedford.
 Evans, A. Hank, Saxton.
 Ferry, Franklin F., New Paris.
 Gump, Simeon H. (1887), Bedford.
 Hanks, Jason G., Rays Hill.
 Henry, William P. S., Everett.
 Hunt, B. F., Bedford.
 Hughes, W. T. (1887), Bedford.
 Smith, J. T. (1896), Chaneysville.

BERKS COUNTY SOCIETY.

(Organized 1824.)

(Reading is the P. O. when the street address
 only is given.)

President.....Allison A. Stamm, Mohns Store.
 V. Presidents..John Y. Hoffman, 929 Franklin St.
 Fremont W. Frankhauser, 230 S.
 Sixth St.
 Secretary.....James W. Keiser, 36 N. Tenth St.
 Cor. Sec'y.....S. Banks Taylor, 140 Oley St.
 Treasurer.....Abraham S. Raudenbush, 116 S.
 Fourth St.
 Censors.....Daniel Longaker, 110 N. Fifth St.
 John K. Seaman, 319 N. Ninth St.
 George G. Wenrich, Wernersville.
 Curator.....John L. Wethered, 116 S. Fifth St.

Stated meetings at the City Hall, Reading, the
 second Tuesday of each month, at 3 P. M. Elec-
 tion of officers in January.

MEMBERS (77)

Bachman, Charles W. (1884), 140 N. Ninth St.
 Beaver, Daniel B. D. (1890), 150 N. Sixth St.
 Becker, John N. (1891), 233 N. Ninth St.
 Bertolet, John M. (1898), 1333 Perkiomen Ave.
 Bertolotte, Martin L. (1891), 32 N. Ninth St.
 Beyerle, George W. (1891), Bernville.
 Bower, John L. (1894), 1333 Perkiomen Ave.
 Brobst, Edward J., West Leesport.
 Brobst, John A. (1871), Bernville.
 Buchler, William S. (1898), Wernersville.
 Cleaver, Emma Osborn, 531 Elm St.
 Cleaver, Israel (1873), 233 S. Fifth St.
 Drawbaugh, J. H. (1896), Robesonia.
 Dundor, Adam B. (1872), 118 S. Fourth St.
 Dundor, F. B., Leesport.
 East, Albert F., 1218 Spruce St.
 Ermentrout, Samuel C. (1890), 1022 Penn.
 Esterley, J. Ritter, 744 N. Sixth St.
 Feick, John F. (1891), 643 N. Ninth St.
 Frankhauser, Fremont W. (1888), 230 S. Sixth St.
 Frantz, Elias H. (1891), 309 N. Ninth St.
 Hain, Leonard G. (1898), Shillington.
 Hartline, Charles H., Oley.
 Hartman, Irvin H. (1898), West Reading.
 Hengst, Milton A., Birdsboro.
 Hepler, Harry A. (1892), 108 S. Fourth St.
 Hertzog, C. Frank, Oley.
 Hetrich, George, Birdsboro.
 Hill, Samuel S. (1896), South Mountain. \
 Hoffman, John Y. (1890), 929 Franklin St.
 Hunsberger, William E. (1884), Maiden Creek.
 Kauffman, John (1896), 728 N. Eleventh St.
 Kehl, George W., 432 N. Tenth St.
 Keiser, James W. (1891), 36 N. Tenth St.
 Kuendig, Elizabeth (1892), Chicago, Ill.
 Kupp, Webster B. (1887), Gibraltar.
 Kurtz, Clarence M. (1892), 304 S. Fifth St.
 Kurtz, J. Ellis (1881), 22 S. Fifth St.
 Kurtz, Samuel L. (1891), 412 S. Fifth St.
 Longaker, Daniel (1894), 110 N. Fifth St.
 Loose, Charles G. (1890), 120 N. Fifth St.
 Maderia, James D., 247 N. Fifth St.
 Mathews, James M. (1864), 138 N. Eighth St.
 Muhlenberg, William F. (1875), 34 S. Fifth St.
 Northrop, Katharine, Wernersville.
 Plank, D. Heber, Morgantown.
 Potteiger, George F. (1894), Hamburg.
 Potteiger, Jonathan B., Hamburg.
 Raudenbush, Abraham S. (1874), 116 S. Fourth
 St.
 Reeser, Howard S. (1870), 111 S. Fifth St.
 Rentschler, H. F., Almshouse, Reading.
 Rigg, Walter A., 220 S. Fifth St.
 Rhoads, M. Albert (1888), 351 N. Fifth St.
 Rhoads, T. Leidy, 1703 Walnut St. Philadelphia.
 Schaeffer, Edwin D. (1894), 317 S. Sixth St.
 Schlemm, Horace E. (1891), 248 N. Tenth St.
 Schmehl, Seymour T. (1894), 114 N. Tenth St.
 Seaman, John K. (1896), 319 N. Ninth St.
 Shearer, James Y. (1868), Sinking Springs.
 Shenk, George B., 115 S. Ninth St.
 Shick, Mary M., 531 Elm St.
 Stamm, Allison A. (1891), Mohns Store.
 Sterley, John B. (1884), 42 S. Sixth St.
 Stryker, Harry D., 31 N. Third St.
 Swayze, Alvah A., 612 N. Tenth St.
 Taylor, S. Banks, 140 Oley St.
 Thompson, Louis L. (1896), 222 N. Sixth St.
 Thompson, Oan J. (1895), 144 N. Tenth St.
 Trexler, Jeremiah S., Kutztown.
 Weidman, W. Murray (1865), 214 S. Fifth St.

Wenger, M. Leroy (1891), 1040 N. Eighth St.
 Wenrich, George G. (1898), Wernersville.
 Wertz, James F., Shamrock.
 Wethered, John L., 116 S. Fifth St.
 Wickert, Victor W., 1013 Penn St.
 Wildberger, Arthur, 137 N. Front St.
 Wolf, William S., Fleetwood.

BLAIR COUNTY SOCIETY.

(Organized 1848.)

President.....Joseph U. Blose, Altoona.
 V. Presidents..Robert J. Hillis, Kipple.
 William McK. Eldon, Roaring
 Spring.
 Secretary.....C. H. Closson, Altoona.
 Treasurer.....William S. Ross, Altoona.
 Censors.....William M. Findley, Altoona.
 Robert W. Christy, Hollidaysburg.

Stated meetings in Library Hall, Altoona, the fourth Thursday of January, March, May, July, September and November. Election of officers in January.

MEMBERS (59)

Allen, David E., Altoona.
 Arnold, James F., (1893), Williamsburg.
 Blose, Joseph U. (1892), Altoona.
 Brotherlin, Henry H. (1898), Hollidaysburg.
 Burbaker, J. L., Kipple.
 Burket, George W. (1898), Tyrone.
 Cherry, Emil T., Altoona.
 Christy, Robert W. (1880), Hollidaysburg.
 Christy, Francis M., Altoona.
 Closson, C. H. (1879), Altoona.
 Confer, Clarence D., Duncansville.
 Duff, Edward M., East Freedom.
 Earnest, Jacob E., Williamsburg.
 Eldon, Roswel T., Martinsburg.
 Eldon, William McK., Roaring Spring.
 Fay, John (1870), Altoona.
 Findley, William M. (1870), Altoona.
 Ford, T. A., Wills Eye Hospital, Philadelphia.
 Fulkerson, Benjamin J., Tyrone.
 Gemmill, Jacob M. (1874), Tyrone.
 Glover, Samuel P., Altoona.
 Hillis, Robert J., Kipple.
 Hogue, J. Herbert (1895), Altoona.
 Hough, C. T. (1889), Altoona.
 Ickes, George A. (1897), Altoona.
 Isenberg, Joseph L. (1898), Mines.
 Irwin, Crawford (1867), Hollidaysburg.
 Irwin, Robert C. (1883), Hollidaysburg.
 Klepser, Ralph C., Altoona.
 Leatherman, Daniel L., Williamsburg.
 Levengood, Brooklyn B., Bellwood.
 Lindsey, James W., Claysburg.
 Long, Charles (1894), Altoona.
 Lowrie, William L., Tyrone.
 McBurney, Charles F., Altoona.
 McCarthy, Samuel L. (1897), Altoona.
 McConnell, Charles H., Altoona.
 Maglaughlin, William K., Altoona.
 Miller, Christian C., Altoona.
 Miller, Edwin S. (1880), Altoona.
 Miller, Emery, Duncansville.
 Miller, Proctor T., Altoona.
 Morrow, William H., Bellwood.
 Musser, Walter F., Tyrone.
 Neff, Elmer E., Altoona.
 Oburn, A. S., Altoona.
 Powley, Joseph E., Altoona.

Ross, John D. (1863), Williamsburg.
 Ross, William S. (1883), Altoona.
 Rowe, J. Wesley, Altoona.
 Shaffer, Orr H. (1898), Altoona.
 Sheedy, John M., Altoona.
 Smith, Dennis K. (1898), Altoona.
 Smith, George W. (1866), Hollidaysburg.
 Smith, Horace R., Altoona.
 Smith, James E. (1892), Altoona.
 Stayer, Andrew S., Altoona.
 Tate, George F., cor. 13th Ave. and 12th St., Altoona.
 Willson, Thomas F., Bellwood.

BRADFORD COUNTY SOCIETY.

(Organized, September, 1849.)

President.....Lewis B. Dennison, Sayre.
 V. Presidents..W. Frank Harshberger, New Albany.
 Francis Chaffee, Towanda.
 Secretary.....Skiles M. Woodburn, Towanda.
 Treasurer.....Frederick G. Newton, Towanda.
 Librarian.....Edward D. Payne, Towanda.
 Censors.....Skiles M. Woodburn, Towanda.
 Charles H. Ott, Sayre.
 Guy C. Holcomb, Ulster.
 Charles K. Ladd, Towanda.
 Cyrus Lee Stevens, Athens.

Stated meetings in Grand Jury Room, at Towanda (or other place selected), the second Tuesday of each month, at 11 A. M. and 1 P. M. Election of officers in January.

MEMBERS (38)

Badger, Samuel W. (1893), Athens.
 Barker, Perley N. (1888), Troy.
 Bird, Arthur J., Overton.
 Blair, A. Stryker, Ulster.
 Chaffee, Francis (1891), Towanda.
 Chamberlain, John W. (1893), Wyalusing.
 Clagett, W. L. (1882), Standing Stone.
 Dennison, Lewis B., Sayre.
 Durga, G. W., LeRaysville.
 Everett, Edward A., Burlington.
 Everett, John E. (1898), Franklindale.
 Harshberger, W. Frank (1891), New Albany.
 Herrmann, M.E., Dushore, (Sullivan Co.)
 Holcomb, Guy C., Ulster.
 Holcomb, John T., Athens.
 Homet, Volney (1870), Wyalusing.
 Hunter, Marcus C., Sayre.
 Johnson, Thomas B. (1885), Towanda.
 Kenyon, Charles L., Monroeton.
 Ladd, Charles K. (1898), Towanda.
 McKown, Herbert L., New Albany.
 Murray, A. H., Mildred, (Sullivan Co.)
 Newton, Frederick G. (1884), Towanda.
 Ott, Charles H., Sayre.
 Park, Edgar R. (1898), Warren Center.
 Pratt, U. M., Watsonstown, (Northumberland Co.)
 Payne, Edward D. (1885), Towanda.
 Randall, William F., Dushore, (Sullivan Co.)
 Reed, Charles (1886), Wysox.
 Schoonmaker, Irving R. (1893), Sayre.
 Stevens, Cyrus Lee (1888), Athens.
 Sturdevant, Dennis W. (1890), Laceyville, (Wyoming Co.)
 Taylor, George B., Towanda.
 Terry, George H. B., Wyalusing.

Thompson, Ferdinand A. (1890), Durell.
 Tracy, E. G., Troy.
 Woodburn, Skiles M. (1884), Towanda.
 Woodhead, H. Irving, Forksville, (Sullivan Co.)

BUCKS COUNTY SOCIETY.

(Organized June 14, 1848; Reorganized October 31, 1863.)

President.....Oliver H. Fretz, Quakertown.
 V. Presidents..Richard C. Foulke, Newhope.
 Abram S. Wilson, Bristol.
 Secretary.....Anthony F. Myers, Blooming Glen.
 Treasurer.....F. Swartzlander, Doylestown.
 Censors.....George M. Grim, Ottsville.
 William R. Stavely, Lahaska.
 William R. Cooper, Point Pleasant.

Stated meetings at Doylestown the first Wednesday in May and November; at Bristol the first Wednesday in August; at Quakertown the first Wednesday in February. Election of officers in November.

MEMBERS (56)

Bacon, John, Andalusia.
 Benner, Irwin L., Sellersville.
 Biehn, Andrew C., Richland Center.
 Carrell, John B. (1888), Hatboro, (Montgomery Co.)
 Cawley, James I. (1891), Springtown.
 Cooper William R. (1888), Point Pleasant.
 Crewitt, John A., Newtown.
 Doughty, William E. (1881), Hartsville.
 Erdman, Milton S., Richland Center.
 Erdman, William S., Buckingham.
 Erdman, Wilson S., Richlandtown.
 Fell, John A., Doylestown.
 Fleckenstine, Horace, Newportville.
 Foulke, Joseph, 1709 Race St., Philadelphia.
 Foulke, Richard C., Newhope.
 Fretz, Alfred E. (1898), Sellersville.
 Fretz, John H. (1888), Lambertville, N. J.
 Fretz, Oliver H. (1888), Quakertown.
 Griffiee, Howard M., Taylorsville.
 Grim, George M., Ottsville.
 Groff, James E., Doylestown.
 Groom, Albert R., Bristol.
 Groom, Evan J. (1894), Bristol.
 Hancock, Edward C. (1888), Yardley.
 Hellyer, Howard A., Penn's Park.
 Hubbell, G. M., Perkasio.
 Huntsman, Edwin S., Hulmeville.
 Kerns, Samuel P., Chalfont.
 Kunsman, William H., Morrisville.
 Love, J. King, Yardley.
 Lovett, Henry, Langhorne.
 Martin, William (1895), Bristol.
 Myers, Anthony F. (1892), Blooming Glen.
 Nonemaker, Noah S., Bedminster.
 O'Connell, Austin, Bucksville.
 Osborne, Richard H. G., Morrisville.
 Ott, John J., Pleasant Valley.
 Parker, George A., Southampton.
 Pownall, Elmer E., Richboro.
 Pursell, Howard (1883), Bristol.
 Read, C. Hubert, Tullytown.
 Richards, James N. (1883), Fallsington.
 Roberts, Isaac B., Dublin.
 Scott, J. Ernest, Newhope.
 Slack, Julia H., Bristol.

Smith, Charles B., Newtown.
 Stavely, William R., Lahaska.
 Stettler, William H., Spinnerstown.
 Swartzlander, Frank (1883), Doylestown.
 Swartzlander, F. B., Doylestown.
 Thomas, Harry L., Langhorne.
 Thomas, Joseph, Quakertown.
 Walter, Joseph B. (1874), Solebury.
 Walton, Levi S., Jenkintown, (Montgomery Co.)
 Wilson, Abram S. (1895), Bristol.
 Winder, William G., 1504 Spruce St., Philadelphia.

BUTLER COUNTY SOCIETY.

(Organized January 3, 1867.)

President.....Harvey D. Hockenberry, West Sunbury.
 V. President...Adam C. Davis, Creighton.
 Secretary.....George J. Peters, Butler.
 Treasurer.....Nicholas M. Hoover, Butler.
 Censors.....Nicholas M. Hoover, Butler.
 Raymond H. Pillow, Butler.
 Harvey D. Hockenberry, West Sunbury.

Stated meetings in Reiber Building, Butler, the second Tuesday in January, and the third Tuesday in March, May, July, September and November. Election of officers in January.

MEMBERS (40)

Atwell, J. Clinton, Butler.
 Barber, LaVerne A. (1897), Mars.
 Barr, John C. (1890), Mars.
 Bell, Harry A. (1898), Butler.
 Bell, Sylvester D. (1876), White River, Arizona.
 Bippus, Samuel M. (1890), Butler.
 Boyle, James C., Butler.
 Byers, John E. (1894), Butler.
 Campbell, W. B., Harrisville.
 Christie, James L. (1880), Connoquenessing.
 Cort, John C. (1891), Evans City.
 Cowden, William R. (1897), Renfrew.
 Cunningham, Abelard V., Zelienople.
 Davis, Adam C. (1896), Creighton, (Allegheny Co.)
 DeWolf, Williard L. (1884), Chicora.
 Grossman, Robert J., Butler.
 Headland, M. E. (1897), Butler.
 Hockenberry, Harvey D. (1892), West Sunbury.
 Hockenberry, W. Rush, Slippery Rock.
 Holman, Albert (1896), McCandless.
 Hoover, Nicholas M. (1891), Butler.
 Howe, Abraham L., Petrolia.
 Kennedy, George W., Portersville.
 Lasher, Weston W., Saxonburg.
 McConnell, T. D., Prospect.
 McKee, Thomas K., Chicora.
 Mershon, E. B., Saxonburg.
 Moore, John W. F. (1896), Butler.
 Peters, George J. (1897), Butler.
 Pillow, Raymond H. (1878), Butler.
 Schultis, Joseph J. (1897), Butler.
 Showalter, J. B. (1888), Chicora.
 Shryhock, L. May (1897), Butler.
 Sterrett, Samuel O. (1891), Velencia.
 Thomas, George D. (1897), Chicora.
 Thomas, Victor F. (1895), Baldwin.
 Thompson, C. E., West Liberty.

Thompson, James B., Prospect.
 Towler, S. S. (1893), Marionville (Forest Co.)
 Wilson, Harry M., Evans City.

CAMBRIA COUNTY SOCIETY.

(Organized 1882.)

President.....Henson F. Tomb, Johnstown.
 V. Presidents..Charles E. Hannan, Johnstown.
 J. A. Lynch, Cresson.
 Secretary.....F. Schill, Jr., Johnstown.
 Treasurer.....Francis Schill, Sr., Johnstown.
 Censors.....Louis H. Mayer, Johnstown.
 George W. Wagoner, Johnstown.
 Webster B. Lowman, Johnstown,

Stated meetings the second Thursday of each month in Johnstown. Officers elected in January and installed into office at the April meeting.

MEMBERS (49)

Blaisdell, Irving C., Wilmore.
 Burkhardt, Ephraim J., Johnstown.
 Deveraux, Robert (1884), Cresson.
 Ferguson, Frank U. (1897), Gallitzin.
 Fitchner, Albon S., Johnstown.
 George, William J., Johnstown.
 Glass, George (1898), South Fork.
 Glass, Joseph H., South Fork.
 Griffith, Harvey M., East Conemaugh.
 Haight, William D., Johnstown.
 Hamer, John W., Johnstown.
 Hannan, Charles E., Johnstown.
 Helfrick, Orland, Spangler.
 Jones, Fremont C. (1890), Ebensburg.
 Jones, Leighton W., Johnstown.
 Koontz, James S., Johnstown.
 Krebs, A. B., Lilly.
 Kress, Edward H., Johnstown.
 Lowman, John B., Johnstown.
 Lowman, Webster B. (1883), Johnstown.
 Lynch, J. A., Cresson.
 McNeny, John B., Johnstown.
 McDonald, George F., Gallitzin.
 Marbourg, Esther L. W. (1884), Johnstown.
 Martin, George, East Conemaugh.
 Matthews, William E., Johnstown.
 Mayer, Louis H. (1896), Johnstown.
 Miller, A. J., Portage.
 Miller, Ed. L. (1895), Johnstown.
 Murray, Valesius A., Patton.
 Porch, George B., Johnstown.
 Pringle, Will N. (1897), Johnstown.
 Rice, Daniel S., Hastings.
 Schill, F., Jr., Johnstown.
 Schill, Francis, Sr. (1886), Johnstown.
 Sheridan, Campbell, Johnstown.
 Sheridan, John C. (1883), Johnstown.
 Sloan, Ira E. (1897), Johnstown.
 Somerville, H. (1896), Chest Springs.
 Statler, Frank B. (1896), Johnstown.
 Tomb, Benjamin F., Johnstown.
 Tomb, Henson F. (1892), Johnstown.
 Troxell, Thomas S. (1890), Gallitzin.
 Troxell, W. E. (1896), Ehrenfeld.
 Wagoner, George W. (1890), Johnstown.
 Wakefield, Alfred N. (1887), Johnstown.
 Weida, J. J., Barnsboro.
 Wirt, John M., Johnstown.
 Woodruff, John B., Johnstown.

CARBON COUNTY SOCIETY.

(Organized 1881.)

President.....Jacob H. Behler Nesquehoning.
 V. President...Edgar A. Riley, Mauch Chunk.
 Sec'y & Treas. James B. Tweedle, Weatherly.
 Censors.....W. H. Clewell, Summit Hill.
 W. Worrall Reber, Lehighon.
 C. I. Hoffman, Morea (Schuylkill Co.)

Stated meetings at Mauch Chunk the third Tuesday of April, and October. Election of officers in April.

MEMBERS (25)

Allen, Chas. L. (1886), Beaver Meadow.
 Balliet, Calvin J., Lehighon.
 Behler, Jacob H., Nesquehoning.
 Clewell, W. H., Summit Hill.
 Davis, David R., Lansford.
 Derheimer, Wesley A., Lehighon.
 Eshelman, E. F., Parryville.
 Henry, Jacob R., Mauch Chunk.
 Hoffman, C. I. (1884), Morea, (Schuylkill Co.)
 Horn, Chas. T. (1884), Lehighon.
 Horn, Joseph A. (1888), Mauch Chunk.
 Keyser, P. D., Mahoning.
 Kistler, Edwin H. (1892), Lansford.
 Kramer, J. C. (1894), Aquashicola.
 Kutz, Wilson L. (1884), Weissport.
 Latham, Peter H., Weatherly.
 Long, Wilson P., Weatherly.
 Longshore, Wm. R. (1884), Hazelton, (Luzerne Co.)
 Moyer, L. W. (1894), Mauch Chunk.
 Reber, W. Worrall (1894), Lehighon.
 Riley, Edgar A., Mauch Chunk.
 Seiple, Wm. G. M., Lehighon.
 Smith, L. H. (1896), Hazelton, (Luzerne Co.)
 Tweedle, James B. (1882), Weatherly.
 Sern, Jacob G. (1891), Lehighon.

CENTER COUNTY SOCIETY.

(Organized April 4, 1876.)

President.....Samuel G. Coons, Benore.
 V. Presidents..George B. Klump, Bellefonte.
 Edward A. Russell, Fleming.
 Secretary.....Jared Y. Dale, Lemont.
 Treasurer.....George F. Harris, Bellefonte.
 Censors.....Robert G. H. Hayes, Bellefonte.
 James L. Seibert, Bellefonte.
 George H. Woods, Pine Grove Mills.

Stated meetings the second Tuesday of each month in the Court House, Bellefonte. Election of officers in January.

MEMBERS (21)

Alexander, John F. (1876), Center Hall.
 Andrews, W. W., Phillipsburg.
 Braucht, Harvey S. (1897), Spring Mills.
 Bright, John W. (1886), Rebersburg.
 Christ, Theodore S. (1895), State College.
 Coons, Samuel G. (1898), Benore.
 Dale, Jared Y. (1877), Lemont.
 Frank, George S. (1888), Millheim.
 Harris, George F. (1878), Bellefonte.
 Hayes, Robert G. H. (1886), Bellefonte.
 Henderson, William B. (1888), Phillipsburg.

Hibler, Augustus (1876), Bellefonte.
 Irwin, William U. (1894), Julian.
 Klump, George B., Bellefonte.
 McEntire, Oscar W. (1898), Howard.
 Musser, C. Sumner (1881), Aaronsburg.
 Newton, Silvanus B. (1897), State College.
 Russell, Edward A. (1883), Fleming.
 Seibert, James L. (1887), Bellefonte.
 Thompson, James A. (1880), Stormstown.
 Woods, George H. (1887), Pine Grove Mills.

CHESTER COUNTY SOCIETY.

(Organized Feb. 5, 1828.)

President.....Jacob Price, West Chester.
 V. Presidents...Ida V. Reel, Coatesville.
 Benjamin Thompson, Landenburg.
 Secretary.....S. Horace Scott, Coatesville.
 Treasurer.....Wilhelmina T. Nelson, West Chester.
 Censors.....Jacob Price, West Chester.
 James Fulton, New London.
 Erasmus V. Swing, Coatesville.

Stated meetings the second Tuesday of January, April, July and October, at Chester County Hospital, West Chester. Election of officers in January.

MEMBERS (49)

Allen, Edgar, Warwick.
 Angle, John S., Strafford.
 Baugh, A. Wayne (1898), Paoli.
 Bringham, Joseph, West Chester.
 Carey, Robert B. (1883), Glenlock.
 Catanach, N., West Chester.
 Edwards, John W., Toughkenamon.
 Emack, Frank D. (1891), Phoenixville.
 Evans, John K. (1891), Malvern.
 Eves, James S., New London.
 Ewing, Robert B. (1879), West Grove.
 Fulton, James (1875), New London.
 Gifford, U. Grant (1893), Avondale.
 Gillespie, Frank (1898), Oxford.
 Hemphill, Jos., Jr., West Chester.
 Hoskins, Percy C. (1876), West Chester.
 Howell, Elizabeth H. C. (1895), West Chester.
 Kerr, Edward (1892), East Downingtown.
 Kirk, Lewis, Oxford.
 Kurtz, C. S., Warren Tavern.
 Lamborn, Carey L., Avondale.
 Maxwell, James R. (1894), Parkesburg.
 Murphy, Walter A., Parkesburg.
 Nelson, Wilhemina T. (1894), West Chester.
 Okie, Richardson B., Berwyn.
 Parke, Thomas E. (1888), East Downingtown.
 Patrick, Elwood (1892), West Chester.
 Perdue, William R. (1881), Unionville.
 Price, Jacob (1864), West Chester.
 Reel, Ida V. (1893), Coatesville.
 Rettew, David P. (1895), Coatesville.
 Reynolds, Conrad S., Kennett Square.
 Richmond, Thomas S., Guthrieville.
 Roberts, C. J. (1894), Malvern.
 Rothrock, Harry A. (1898), West Chester.
 Rothrock, Joseph T. (1883), West Chester.
 Scattergood, Joseph, West Chester.
 Scott, S. Horace (1892), Coatesville.
 Sharpless, William T. (1891), West Chester.
 Shoemaker, Jesse G. (1894), Phoenixville.

Smith, Mary H. (1898), Parkesburg.
 Stubbs, Joseph H. (1879), London Grove.
 Swing, Erasmus V. (1884), Coatesville.
 Thompson, Benjamin (1870), Landenburg.
 Treichler, C. Galen (1879), Honeybrook.
 Walker, James, Hamorton.
 Webb, Ella S. (1895), Oxford.
 Weeks, Albert, Phoenixville.
 Woodward, Charles E. (1881), West Chester.

CLARION COUNTY SOCIETY.

(Organized 1865.)

President.....Robert A. Walker, West Monterey.
 V. President...Frank P. Gardner, Lamartine.
 Secretary.....John F. Summerville, Monroe.
 Treasurer.....William M. Clover, Knox.
 Censors.....William M. Clover, Knox.
 J. Francis Ross, Clarion.
 Robert S. Wallace, East Brady.

Stated meetings at selected places the fourth Tuesday of April, July and October. Annual meeting at Clarion the fourth Tuesday of January.

MEMBERS (21)

Clover, Cuvier L., Knox.
 Clover, William M. (1867), Knox.
 Fitzgerald, John M. (1875), Clarion.
 Gardner, Frank P., Lamartine.
 Hepler, Albert J. (1897), Fairmount City.
 Mohny, A.M. (1892), Rimersburg.
 Mohny, Christian S. (1897), Callensburg.
 Rimer, John T. (1890), Clarion.
 Robinson, Robert, East Brady.
 Ross, J. Francis (1870), Clarion.
 Shumaker, Phillip W., New Bethlehem.
 Slangenaupt, William A., East Brady.
 Speer, Ross H. (1897), Vandergrift, (Westmoreland Co.)
 Spencer, George W., Sligo.
 Spencer, Robert L., Sligo.
 Summerville, H. B. (1897), Rimersburg.
 Summerville, John F. (1890), Monroe.
 Walker, Robert A., West Monterey.
 Wallace, Robert S. (1870), East Brady.
 Wireback, I. J. (1875), St. Petersburg.
 Woods, G. B. (1897), Curlsville.

CLEARFIELD COUNTY SOCIETY.

(Organized September 27, 1864; Chartered April 3, 1894.)

President.....Samuel D. Bailey, Clearfield.
 V. President...James L. Henderson, Osceola Mills.
 Sec'y & Treas..Percy L. Hoover, Mahaffey.
 Censors.....S. J. Miller, Madera.
 Mark G. Whittier, Clearfield.
 Stephen Fugate, DuBois.

Stated meetings the last Friday of January, April, July and October in the Arbitration Rooms, Clearfield, at 10 A. M. and 2 P. M. Election of officers in January.

MEMBERS (34)

Bailey, Samuel D., Clearfield.
 Bennett, Ash D., Mahaffey.

Bennett, Francis G., Mahaffey.
 Brockbank, Joseph I., DuBois.
 Burchfield, James P., Clearfield.
 Coe, B. F., Gazzam.
 Collins, H. A., Wallacetown.
 Currier, Johnathan (1887), Grampian.
 Flegal, Irvin S., Karthaus.
 Fugate, Stephen, DuBois.
 Henderson, James L. (1886), Osceola Mills.
 Hoover, Percy L., Mahaffey.
 Hurd, Michael E., La Jose.
 Irvin, Frank N., Peale.
 Kelso, John S., Woodland.
 King, Hiram O., Curwensville.
 McNaul, C. Gleni, Glen Richie.
 Miller, James A., Grampian.
 Miller, S. J., Madera.
 Murray, John A. (1897), Clearfield.
 Park, William C., New Millport.
 Purnell, Howard G., Ansonville.
 Quinn, Luther W., DuBois.
 Read, Frederick B. (1888), Osceola Mills.
 Smathers, Wilson J., DuBois.
 Spackman, James P. (1898), DuBois.
 Spackman, Reuben V., DuBois.
 Stewart, Samuel C. (1883), Clearfield.
 Sullivan, John C., DuBois.
 Thorp, John S., Curry Run.
 Todd, Fernandez, Houtzdale.
 Waterworth, Samuel J., Clearfield.
 Whittier, Mark G. (1892), Clearfield.
 Woodside, Harry, Lumber City.

CLINTON COUNTY SOCIETY.

* (Organized 1887.)

President..... John B. McClosky, Mill Hall.
 V. President... Joseph M. Corson, Chatham's
 Run,
 Secretary..... Robert B. Watson, Lock Haven.
 Treasurer..... William N. Armstrong, Lock
 Haven.
 Censors..... Richard Armstrong, Lock Haven.
 Luther M. Holloway, Salona.
 George A. Beck, Flemington.

Stated meetings at Lock Haven in the parlors of
 the Lock Haven Club the third Friday of each
 month at 2 o'clock P. M. Election of officers in
 January.

MEMBERS (21)

Armstrong, Richard (1892), Lock Haven.
 Armstrong, William N., Lock Haven.
 Ball, Francis P. (1888), Lock Haven.
 Beck, George A., Flemington.
 Corson, Joseph M. (1896), Chatham's Run.
 Davis, R. O., North Bend.
 Dumm, J. M. (1891), Mackeyville.
 Fullmer, Charles L. (1893), Renovo.
 Furst, Robert G. (1896), Lock Haven.
 Gilmore, John K. (1898), Westport.
 Hayes, Joseph H., Lock Haven.
 Holloway, Luther M., Salona.
 Houtz, John A., Loganton.
 Huff, Scott M. (1895), Milesburg, (Center Co.)
 Huston, Joseph H., Clintondale.
 McCloskey, John B., Mill Hall.
 Mothersbaugh, Henry H., Beech Creek.
 Shoemaker, William J. (1888), Lock Haven.
 Tibbins, Joseph E. (1893), Beech Creek.

Vandersloot, Frederick W., Lock Haven.
 Watson, Robert B. (1892), Lock Haven.

COLUMBIA COUNTY SOCIETY.

(Organized July 31, 1858.)

President..... Andrew Graydon, Bloomsburg.
 V. Presidents... J. Stacey John, Bloomsburg.
 Ambrose Shuman, Mainville.
 Sec'y & Treas. William M. Reber, Bloomsburg.

Stated meetings at Bloomsburg third Tuesday
 in February, June and October; at Catawissa, third
 Tuesday in April, August and December. Elec-
 tion of officers in December.

MEMBERS (25)

Arment, Samuel B., Bloomsburg.
 Brown, J. Jordan (1893), Bloomsburg.
 Bruner, John W., Bloomsburg.
 Christian, Howard S., Millville.
 Folmer, J. Brooks (1892), Rohrsburg.
 Graydon, Andrew, Bloomsburg.
 Hower, H. V. (1892), Mifflinville.
 Hill, Frank P., Berwick.
 John, J. Stacey, Bloomsburg.
 Kline, Luther B. (1875), Catawissa.
 McReynolds, Hugh W., Bloomsburg.
 MacRea, Alexander B., Berwick.
 Montgomery, James R. (1886), Buckhorn.
 Poust, George A., Millville.
 Reagan, George L. (1870), Berwick.
 Reber, William M. (1876), Bloomsburg.
 Redeker, Frederick W. (1881), Bloomsburg.
 Sharpless, Benjamin F. (1892), Catawissa.
 Shuman, Ambrose, Mainville.
 Shuman, J. Elmer (1898), Jerseytown.
 Steck, Charles T. (1896), Berwick.
 Vastine, George H. (1895), Catawissa.
 Vastine, Jacob H. (1875), Catawissa.
 Wolfe, Isaac R., Espy.
 Zimmerman, Pius (1892), Numidia.

CRAWFORD COUNTY SOCIETY.

(Organized 1867.)

President..... John C. Cotton, Meadville.
 V. Presidents.. Albert H. Macbeth, Cambridge
 Springs.
 William H. Rouché, Guy's Mills.
 Sec'y & Treas. Cornelius C. Laffer, Meadville.
 Censors..... W. D. Hamaker, Meadville.
 Clarence C. Hill, Meadville.
 R. A. Calvin, Meadville.

Stated meetings in Meadville, first Tuesday of
 January, April, July and October. Election of offi-
 cers in January.

MEMBERS (26)

Brush, Harry L., Custards.
 Calvin, R. A., Meadville.
 Carpenter, Mead C., Blooming Valley.
 Cooper, Joshua M. (1890), Johnstown, (Cambria
 Co.)
 Cotton, John C. (1882), Meadville.
 Daubenspeck, Charles F., Cochranton.
 Dewey, Edward H. (1882), Meadville.
 Gamble, R. Bruce, Meadville.
 Gray, M. Dwight, Cambridge Springs.

Gretnfield, Robert N., Penn Line.
 Hamaker, W. D. (1890), Meadville.
 Hassler, James P., Meadville.
 Hazen, Sylvester F., Hartstown.
 Hill, Clarence C., Meadville.
 Hoag, G. W., Cambridge Springs.
 Johnson, E. B., Cambridge Springs.
 Johnson, Samuel C., Blooming Valley.
 Laffer, Cornelius C., Meadville.
 Macbeth, Albert H., Cambridge Springs.
 Mosier, J. Russell, Hayfield.
 Nason, W. Albert (1898), Roaring Spring,
 (Blair Co.)
 Roberts, John K. (1889), Cochranon.
 Rose, Susan F., Meadville.
 Rouché, William H., Guy's Mills.
 Williams, H. L., Conneaut Lake.
 Young, Will N., Cambridge Springs.

CUMBERLAND COUNTY SOCIETY.

(Organized July 17, 1866.)

President..... Edward S. Berry, Shippensburg.
 V. Presidents.. Milton M. Dougherty, Mechanics-
 burg.
 S. S. Bishop, Carlisle.
 Secretary..... Joseph C. Davis, Carlisle.
 Cor. Sec'y..... Hildegard H. Longsdorf, Carlisle.
 Treasurer..... John W. Bowman, Lemoyne.
 Censors..... Edward S. Berry, Shippensburg.
 Milton M. Dougherty, Mechanics-
 burg.
 S. S. Bishop, Carlisle.
 Joseph C. Davis, Carlisle.
 Hildegard H. Longsdorf, Car-
 lisle.
 John W. Bowman, Lemoyne.

January meeting at Carlisle; April meeting at
 Mechanicsburg July meeting at Newville. Octob-
 er meeting at Shippensburg. Election of officers
 in January.

MEMBERS (36),

Allen, Americus R., Carlisle.
 Berry, Edward S. (1898), Shippensburg.
 Bishop, S. S., Carlisle.
 Bixler, Jacob R., Carlisle.
 Borst, George C., Newville.
 Bowman, John W. (1888), Lemoyne.
 Boyd, John M., Walnut Bottom.
 Davis, Joseph C. (1892), Carlisle.
 Diven, D. L., Carlisle.
 Dougherty, Milton M. (1896), Mechanicsburg.
 Emrick, B. F., Carlisle.
 Heminger, George, Carlisle.
 Hummel, C. Carroll (1881), Mechanicsburg.
 Irwin, George G., Mt. Holly Springs.
 Koons, Philip R. (1891), Mechanicsburg.
 Koser, John J. (1886), Shippensburg.
 Krise, Columbus W. (1877), Carlisle.
 Krall, George Hyde, Dickinson.
 Lefever, Enos K., Boiling Springs.
 Linebaugh, Harry M., New Cumberland
 Long, Robert P., Mechanicsburg.
 Longsdorf, Harold H. (1892), Dickinson.
 Longsdorf, Hildegard H. (1893), Carlisle.
 Longsdorf, W. H., Camp Hill.
 McCreary, J. Bruce, Shippensburg.
 McDonald, David L. (1896), Shiremanstown.
 Philipy, W. B., Allen.
 Reily, William F., Carlisle.
 Ritchey, G. Frank (1896), New Kingston.
 Shively, James B., Shippensburg.
 Spangler, Harry A., Carlisle.

Stewart, Thomas (1892), Carlisle.
 Stewart, William G., Newville.
 Swiler, William E. (1896), Mechanicsburg.
 Van Camp, D.W., Plainfield.
 Van Camp, Joshua E., Plainfield.

DAUPHIN COUNTY SOCIETY.

(Organized 1868.)

President..... David S. Funk, Harrisburg.
 V. Presidents.. Charles H. Saul, Steelton.
 Melancthon M. Ritchie, Harris-
 burg.
 Secretary..... Paul A. Hartman, Harrisburg.
 Treasurer..... Eli H. Coover, Harrisburg.
 Censors..... H. L. Orth, Harrisburg.
 Hiram McGowan, Harrisburg.
 Charles E. Pease, Middletown.

Stated meetings for business third Tuesday in
 January, April, August and November; and scient-
 ific meetings, first Tuesday in each month, except
 July, August and September, at the Academy of
 Medicine, Harrisburg. Election of officers in Janu-
 ary.

MEMBERS (63)

Ayers, Wilmot, Harrisburg.
 Bill, George E. (1898), Harrisburg.
 Bishop, William Thomas (1881), Derry Station,
 (Westmoreland Co.)
 Blair, Thomas (1896), Harrisburg.
 Bowman, John F. (1878), Millersburg.
 Brown, George L., Fort Hunter.
 Coble, Aaron C., Dauphin.
 Cocklin, Charles C., Harrisburg.
 Coover, Eli H. (1876), Harrisburg.
 Coover, Fred W. (1883), Harrisburg.
 Culp, John F. (1894), Steelton.
 DeVinney, John C. (1896), Harrisburg.
 Dickinson, B. T., Steelton.
 Duff, William L., Harrisburg.
 Egle, William Henry (1896), Harrisburg.
 Ellenberger, John W. (1881), Harrisburg.
 Fritchey, John A. (1881), Harrisburg.
 Funk, David S. (1894), Harrisburg.
 Garver, Jane K. (1883), Harrisburg.
 Gerhard, Jerome Z. (1873), Harrisburg.
 Graber, Leon K., Harrisburg.
 Hamilton, Hugh (1874), Harrisburg.
 Hartman, Paul A. (1875), Harrisburg.
 Hassler, Samuel F. (1896), Harrisburg.
 James, E. Harold (1894), Harrisburg.
 Jauss, Christian E. (1896), Harrisburg.
 Jones, William H. (1894), Harrisburg.
 Kcene, Charles E. L. (1896), Harrisburg.
 Kunkle, George B., Harrisburg.
 Lavery, Dewitt C., Middletown.
 McAllister, John B. (1894), Harrisburg.
 McGowan, Hiram (1886), Harrisburg.
 Meals, Ezra S. (1896), Harrisburg.
 Middleton, William J. (1892), Steelton.
 Mish, George F. (1896), Middletown.
 Nead, Daniel W. (1893), 1848 Master St., Phila-
 delphia.
 Newman, Oscar A., Harrisburg.
 Oenslager, John, Harrisburg.
 Orth, H. L. (1868), Harrisburg.
 Park, J. Walter (1882), Harrisburg.
 Pease, Charles F. (1896), Middletown.
 Peters, Jacob M., Steelton.
 Phillips, Clarence R., Harrisburg.
 Plank, J. R., Steelton.
 Putt, Maurice O., Oberlin.
 Rahter, Charles A. (1868), Harrisburg.

Rickert, Charles M., Harrisburg.
 Ritchie, Melancthon M., Harrisburg.
 Roop, J. Warren (1892), Harrisburg.
 Ruhl, John H. (1896), Middletown.
 Saul, Charles H. (1896), Steelton.
 Schaffner, D. M. (1896), Steelton.
 Seibert, William H. (1877), Steelton.
 Seitz, John L. (1894), Harrisburg.
 Stevens, John C. (1895), Harrisburg.
 Stites, G. W., Williamstown.
 Traver, David B. (1898), Steelton.
 Ulrich, Marion, Millersburg.
 Walter, Henry B. (1896), Harrisburg.
 Widder, George H., Harrisburg.
 Willetts, Theodore L. (1898), Harrisburg.
 Wolford, Martin L. (1896), Harrisburg.
 Wright, William E., Harrisburg.

DELAWARE COUNTY SOCIETY.

(Organized May 30, 1850.)

President.....David M. McMasters, Ridley Park.
 V. President...Harry Gallagher, Glenolden.
 Secretary.....Linnaeus Fussell, Media.
 Treasurer.....Daniel W. Jefferis, Chester.
 Reporter.....Sylvester V. Hoopman, Chester.
 Librarian.....Samuel Trimble, Lima.
 Censors.....Samuel P. Bartleson, Clifton Heights.
 Daniel W. Jefferis, Chester.
 J. Harvey Fronfield, Media.

Stated meetings the second Thursday of each month at places selected. Election of officers in January.

MEMBERS (46)

Baker, Frances N. (1881), Media.
 Bartleson, Samuel P. (1879), Clifton Heights.
 Brown, Ellen E. (1893), Chester.
 Bryant, F. Otis, Chester.
 Cross, George D. (1892), Chester.
 Crothers, S. R. (1891), Thurlow.
 Dickeson, Morton P. (1892), Glen Riddle.
 Dickeson, William T. W. (1863), Media.
 Easby, Alice Rogers, Media.
 Evans, Frank J., Chester.
 Evans, Fred H., Chester.
 Evans, William K. (1894), Chester.
 Forwood, Francis F., Chester.
 Forwood, Jonathan L., Chester.
 Fronfield, J. Harvey (1885), Media.
 Fussell, Linnaeus (1875), Media.
 Gallagher, Harry, Glenolden.
 Given, S. A. Mercer (1888), Clifton Heights.
 Green, Mary V. M., Swarthmore.
 Hamilton, Frank L., Chester.
 Hammond, William, Llanwellyn.
 Harvey, Ellis Marshall, Media.
 Hoopman, Sylvester V., Chester.
 Hornor, Joseph H., Concordville.
 Howell, Elizabeth E. W., 2324 Chestnut St., Chester.
 Jefferis, Daniel W. (1876), Chester.
 Johnston, Frank E., Moores.
 Kalbach, Isaac I., Village Green.
 Laine, D. T. (1892), Media.
 Lehman, William F., Chester.
 Long, F. Farwell (1892), Chester.
 McMasters, David M. (1894), Ridley Park.
 Maison, Robert S. (1894), Chester.
 Neal, Samuel B., Chester.
 Painter, William P., Darby.
 Partridge, Conrad L., Ridley Park.

Phillips, J. Willoughby (1881), Clifton Heights.
 Postles, David, Chester.
 Price, Hannah J. (1884), Chester.
 Pyle, Jerome L., Glen Mills.
 Risley, Samuel D. (1878), Media.
 Schoff, Charles H., Media.
 Stellwagen, Thomas C. (1883), Media.
 Trimble, Samuel, Lima.
 Ulrich, William B. (1870), Chester.
 Webb, Walter, Sharon Hill.

ELK COUNTY SOCIETY.

(Organized 1881.)

President.....George B. Hall, Cartwright.
 V. President...William B. Hartman, St. Marys.
 Secretary.....J. C. McAllister, Ridgway.
 Treasurer.....Eben J. Russ, St. Marys.
 Censors.....William B. Hartman, St. Marys.
 J. C. McAllister, Ridgway.
 Russell P. Heilman, Emporium.

Stated meetings in Ridgway the second Thursday of every other month, commencing in January. Election of officers in January.

MEMBERS (20)

Bardwell, Eugene O. (1882), Emporium, (Cameron Co.)
 Bevier, Arthur B. (1892), Ridgway.
 Colcord, Amos W., Austin, (Potter Co.)
 Corbett, Vander K., Driftwood, (Cameron Co.)
 Earley, Francis G., Ridgway.
 Hall, George B., Cartwright.
 Hartman, William B. (1882), St. Marys.
 Heilman, Russell P. (1886), Emporium.
 McAllister, J. C. (1892), Ridgway.
 Mullhaupt, Alfred (1894), St. Marys.
 Palmer, William R. (1892), Johnsonburg.
 Ross, Lamont H., Dagus Mines.
 Russ, Eben J. (1884), St. Marys.
 Smith, Henry H., Johnsonburg.
 Smith, Sylvester S., Emporium, (Cameron Co.)
 Ulsh, William H., Driftwood, (Cameron Co.)
 Wells, James H. (1888), Wilcox.
 Williams, Walter L. (1882), Ridgway.
 Wilson, Clarence G. (1882), St. Marys.
 Warnick, John W., Glen Hazel.

ERIE COUNTY SOCIETY.

(Reorganized June 25, 1895.)

President.....Samuel F. Chapin, Erie.
 V. President...Thomas Purcell, Erie.
 Secretary.....Ira J. Dunn, Erie.
 Treasurer.....Ira J. Dunn, Erie.
 Censors.....George S. Ray, Erie.
 Cassius M. Cardot, Hornby.
 George A. Reed, Erie.

Stated meetings in the Library Building, Erie, the first Tuesday of each month, alternating 10:30 A. M. and 8 P. M. Election of officers in January.

MEMBERS (49)

Adams, A. J., North East.
 Aichner, Otto, Erie.
 Andrews, William K., Mill Village.
 Allen, Charles L., Wesleyville.
 Barkey, Peter, Erie.
 Barney, Alfred R., Wattsburg.
 Barton, Theodore W., Waterford.
 Brandes, Charles, Erie.
 Cardot, Cassius M., Hornby.
 Chapin, Samuel F., Erie (Soldier's Home)
 Cooper, Ninian J., West Springfield.

Delany, James H., Erie.
 Dennis, David N. (1897), Erie.
 Dickinson, G. S., Erie.
 Douville, Jeffrey C., North East.
 Duff, R. H., Girard.
 Dunn, Ira J. (1897), Erie.
 Foringer, Henry H., Erie.
 Forrester, Joseph, Erie.
 Garries, George A., Erie.
 Gillespie, Martin S., Edinboro.
 Greenfield, Frank G., Edinboro.
 Gray, Thomas H., Erie.
 Hall, Friend L. (1897), Erie.
 Hart, F. C., Fairview.
 Humphrey, William J., Union City.
 Hunter, Wallace R., Erie.
 Kalb, George B., Erie.
 Kendall, Eugene E., Waterford.
 Lloyd, John H., Fairview.
 Logan, Orlando (1897), Girard.
 Montgomery, James H., Erie.
 Moore, M. M., Wesleyville.
 Peters, J. M., Lundys Lane.
 Potter, Earl B., Edinboro.
 Purcell, Thomas, Erie.
 Putnam, Burton H., North East.
 Ray, George S. (1898), Erie.
 Reed, George A. (1897), Erie.
 Seward, Jones J., Erie.
 Sherwood, Alfred C. (1886), Union City.
 Silliman, James E. (1878), Erie.
 Smith, Munson C., Erie.
 Strickland, David H. (1897), Erie.
 Walsh, Frank A., Erie.
 West William H., Waterford.
 Woods, Adella B., Erie.
 Wright, John L., Erie.
 Wright, John W. (1898), Erie.

FAYETTE COUNTY SOCIETY.

(Organized May 18, 1869.)

President.....Willis N. Smith, Jumonville.
 V. President...Earl L. McDaniel, Dunbar.
 Sec'y & Treas...Levi S. Gaddis, Uniontown.
 Asst. Secretary John D. Sturgeon, Uniontown.
 Censors.....Thomas H. White, Connellsville.
 Peter Franklin Smith, Uniontown.
 Norman Burt Lowman, Belle Ver-
 non.

Stated meetings first Tuesday in January, April, July and October, in Directors' Office, Public Schools, Uniontown. Election of officers in January.

MEMBERS (47)

Atkinson, Henry F., Connellsville.
 Bailey, William J., Leisenring.
 Batton, John A. (1897), Uniontown.
 Bell, Harry J. (1896), Dawson.
 Clark, R. Woodhull (1881), Meade St., Pittsburg, E. E.
 Cochran, James L., Star Junction.
 Coll, Hugh J., Connellsville.
 Davidson, John H., Perryopolis.
 Detwiler, John F., Uniontown.
 Eastman, Thomas N. (1897), Uniontown.
 Ewing, James B. (1878), Uniontown.
 Gaddis, Levi S. (1878), Uniontown.
 Gallagher, George W., New Haven.
 Gordon, John W., Belle Vernon.
 Giffen, John W., Juniataville.
 Guiber, Horace B., Smithfield.
 Hackney, Jacob S. (1890), Uniontown.

Holbert, James F. Fairchance.
 Hopwood, William H., Upper Middletown.
 Jackson, Isaac (1890), Brownsville.
 Jackson, John D., Connellsville.
 LaClair, Charles H., Uniontown.
 Lowman, Norman Burt, Belle Vernon.
 McClenathan, John C., Connellsville.
 McCormick, Louis P., Connellsville.
 McDaniel, Earl L., Dunbar.
 McKay, Oliver P., Fayette City.
 Miller, Colley J., Brownsville.
 Neff, George W., Masontown.
 Osborne, W. W., Upper Middletown.
 Parshall, J. W., Uniontown.
 Phillips, Ellis, New Haven.
 Reichard, Cyrus C., Brownsville.
 Shoemaker, Benjamin, Brownsville.
 Shoemaker, J. Fred (1898), Vanderbilt.
 Shupe, Mersellows B., Connellsville.
 Smith, Charles H., Uniontown.
 Smith, Peter Franklin (1890), Uniontown.
 Smith, Willis N., Jumonville.
 Sturgeon, John D. (1897), Uniontown.
 Sturgeon, William H. (1876), Uniontown.
 Taylor, Frank H., Uniontown.
 Torrence, D. Rogers (1888), New Haven.
 VanVoorhis, John S. (1869), Belle Vernon.
 Warne, W. W., Dunbar.
 White, Thomas H. (1887), Connellsville.
 Worrell, John W. (1882), Brownsville.

FRANKLIN COUNTY SOCIETY.

(Organized Jan. 19, 1869.)

President.....John H. Devor, Fort Loudon.
 V. President...Alvin D. Dalbey, McConnellsburg.
 Secretary.....H. Clay Devilbliss, Chambers-
 burg.
 Cor. Sec'y.....John Montgomery, Chambers-
 burg.
 Treasurer.....David Maclay, Chambersburg.
 Censors.....David F. Unger, Mercersburg.
 Aaron B. Grove, New Franklin.
 John J. Coffman, Scotland.

Stated meetings in Medical Library, Chambersburg, third Tuesday of each month. Election of officers in October.

MEMBERS (36)

Alexander, R. McG., Fannettsburg.
 Bonebrake, Henry X. (1896), Chambersburg.
 Brosius, W. H., Montalto.
 Bushey, Frank A., Greencastle.
 Chritzman, H. G. (1879), Welsh Run.
 Coffman, John J. (1892), Scotland.
 Dalbey, Alvin D. (1898), McConnellsburg (Ful-
 ton Co.)
 Devilbliss, H. Clay (1895), Chambersburg.
 Devor, John H. (1893), Fort Loudon.
 Frantz, Joseph Jr. (1898), Waynesboro.
 Fritz, Horace M. (1893), Quincy.
 Greenawalt, John C., Chambersburg.
 Grove, Aaron B. (1896), New Franklin.
 Hartzell, Charles A., Fayetteville.
 Hudson, Elmer A. (1894), Shade Gap, (Hunting-
 don Co.)
 Kauffman, Leslie M. (1896), Kauffman.
 Kennedy, James S., Chambersburg.
 Lantz, William O. (1887), Lemaster.
 Leberknight, Adam K., Orrstown.
 McLanahan, Johnston, Chambersburg.
 McLaughlin, Charles M., Greencastle.
 Maclay, David (1893), Chambersburg.
 Montgomery, John (1871), Chambersburg.

Montgomery, P., Brough (1892), Chambersburg.
 Noble, William P. (1879), Upton.
 Palmer, Charles F., Chambersburg.
 Ramsey, Robert W. (1877), Chambersburg.
 Skinner, W. Frank (1895), St. Thomas.
 Snively, A. Barr, Waynesboro.
 Snively, Isaac N. (1873), Waynesboro.
 Snively, Joseph L., Shady Grove.
 Strickler, Abram H. (1875), Waynesboro.
 Suesserott, Louis F., Chambersburg.
 Unger, David F. (1881), Mercersburg.
 Varden, Robert P., Mercersburg.
 Weagley, T. H. (1892), Marion.

GREENE COUNTY SOCIETY.

(Reorganized June 26, 1883.)

President..... Edmund W. Laidley, Carmichaels.
 V. President... R. Edward Brock, Waynesburg.
 Secretary..... Jane Teagarden, Waynesburg.
 Cor. Sec'y..... John T. Jams, Waynesburg.
 Treasurer..... T. H. Sharpnack, Jefferson.
 Censors..... T. H. Sharpnack, Jefferson.
 Thomas N. Milliken, Waynesburg.
 John T. Ullom, Waynesburg.

Stated meetings in Waynesburg the fourth Tuesday of October, April, June and August. Election of officers in October.

MEMBERS (16)

Brock, R. Edward (1890), Waynesburg.
 Hill, T. Benton (1890), Waynesburg.
 Hootman, David A., Lone Pine, (Washington Co.)
 Jams, John T. (1886), Waynesburg.
 Knotts, Ira D., Davistown.
 Laidley, Edmund W., Carmichaels.
 Laidley, John C., Carmichaels.
 Miller, J. H., Bristoria.
 Miliken, Thomas N. (1893), Waynesburg.
 Murray, John M. (1896), Windridge.
 Patterson, J. E., Harveys.
 Scott, George M., Rutan.
 Sharpnack, T. H. (1890), Jefferson.
 Teagarden, Jane (1887), Waynesburg.
 Throckmorton, William S. (1895), Nineveh.
 Ullom, John T. (1887), Waynesburg.

HUNTINGDON COUNTY SOCIETY.

(Organized April 9, 1872.)

President..... David P. Miller, Huntingdon.
 V. President... Samuel G. M. Snyder, Birmingham.
 Secretary..... Andrew B. Brumbaugh, Huntingdon.
 Treasurer..... George G. Harman, Huntingdon.
 Censors..... John C. Stever, Three Springs.
 Thomas Tobin, Warriorsmark.
 Rudolph Myers, Huntingdon.

Stated meetings in Huntingdon, second Tuesday of January, April, July and October; the July meeting may be held elsewhere. Election of officers in January.

MEMBERS (19)

Banks, Clark W. (1896), Huntingdon.
 Bernhardt, Dallas (1888), Dublin Mills, (Fulton Co.)
 Bigelow, Lebeus I., McConnellstown.
 Brumbaugh, Andrew B. (1873), Huntingdon.
 Bush, Charles B., Orbisonia.
 Campbell, Charles (1895), Petersburg.
 Evans, Micajah R. (1896), Huntingdon.

Frontz, Howard C. (1896), Huntingdon.
 Harman, George G. (1883), Huntingdon.
 Harnish, Charles A. (1893), Alexandria.
 Johnston, William H. (1886), Robertsdale.
 McCarthy, Alvin R. (1892), Mount Union.
 McCauley, Charles A. (1895), Petersburg.
 Miller, David P. (1873), Huntingdon.
 Myers, Rudolph, Huntingdon.
 Snyder, Samuel G. M., Birmingham.
 Stever, John C. (1887), Three Springs.
 Taylor, Zane B., Orbisonia.
 Tobin, Thomas (1883), Warriorsmark.

INDIANA COUNTY SOCIETY.

(Organized June 23, 1858.)

President..... Medus M. Davis, Indiana.
 V. President... James H. Peterman, Grant.
 Secretary..... Israel P. Klingensmith, Blairsville.
 Treasurer..... Albert T. Rutledge, Blairsville.
 Censors..... Israel P. Klingensmith, Blairsville.
 John T. Cass, West Lebanon.
 Luther S. Claggett, Blairsville.

Stated meetings in Indiana, second Tuesday of January, May and September. Election of officers in January.

MEMBERS (27)

Ansley, William B. (1883), Saltsburg.
 Bryson, James A. (1893), Creekside.
 Buterbaugh, Howard B., Indiana.
 Cass, John T., West Lebanon.
 Claggett, Luther S. (1878), Blairsville.
 Davis, Medus M. (1897), Indiana.
 Dickie, Edward H., Homer City.
 Dodson, William E., Indiana.
 Earhart, Elias B. (1898), Saltsburg.
 Harding, James L. (1897), Blairsville.
 Hosack, William (1893), Indiana.
 Johnston, Andrew A., Unity Station, (Allegheny Co.)
 Klingensmith, Israel P. (1876), Blairsville.
 Lewis, Norman, Blairsville.
 McEwen, Charles M., Plumville.
 McMullen, James (1862), Brush Valley.
 Madden, Francis J., Blairsville.
 Miller, William R. (1897), Blairsville.
 Onstott, Elmer, Saltsburg.
 Peterman, James H., Grant.
 Reed, William L., Branch, (Westmoreland Co.)
 Rutledge, Albert T. (1892), Blairsville.
 Shadle, Charles H., Saltsburg.
 Shields, William L. (1896), Kent.
 Simpson, G. E., Home.
 St. Clair, John M., Indiana.
 Weamer, J. A., Homer City.

JEFFERSON COUNTY SOCIETY.

(Organized 1877; Incorporated 1887.)

President..... T. R. Williams, DeLancey.
 V. President... T. Chalmers Lawson, Brookville.
 Sec'y & Treas. Abraham F. Balmer, Brookville.
 Censors..... John W. Foust, Reynoldsville.
 John C. Cochran, Big Run.
 James C. King, Reynoldsville.

Stated meetings in DuBois, unless otherwise ordered at a previous meeting, on the fourth Friday of each month. Election of officers in July.

MEMBERS (51)

Aldrich, Charles S., Anita.
 Alexander, William B., Reynoldsville.
 Balmer, Abraham F. (1870), Brookville.
 Beyer, William F. (1891), Punxsutawney.

Blaisdell, Walter S., Punxsutawney.
 Booher, Jay C. (1897), Falls Creek.
 Bowser, Addison H. (1896), Reynoldsville.
 Brewer, Jeremiah J., Clarrington, (Forest Co.)
 Brown, John K. (1890), Summerville.
 Campbell, W. S. (1893), Rochester Mills, (Indiana Co.)
 Cochran, John C. (1892), Big Run.
 Cooley, John M. (1897), Beechtree.
 Cox, Andrew P. (1880), Big Run.
 Davenport, Samuel M., DuBois, (Clearfield Co.)
 Dilts, Harry C. (1897), Derry Station, (Westmoreland Co.)
 Ernst, Charles G., Punxsutawney.
 Foust, John W. (1880), Reynoldsville.
 Free, Spencer M. (1884), DuBois, (Clearfield Co.)
 Gorman, S. C., Rathmel.
 Gourley, Russel C., Troutville, (Clearfield Co.)
 Grube, John E. (1894), Punxsutawney.
 Grube, Joseph M., Lindsey.
 Hamilton, S. S. (1891), Punxsutawney.
 Haven, James A., Summerville.
 Hennigh, George B., Troutville, (Clearfield Co.)
 Holden, Newell E. (1897), Corsica.
 Hughes, Charles W. (1894), Big Run.
 Humphreys, George H., Brockwayville.
 Hunt, R. S. (1894), Brookville.
 King, Harry B. (1897), Reynoldsville.
 King, James C. (1880), Reynoldsville.
 Lawson, T. Chalmers (1895), Brookville.
 Maine, Charles L., Helvetia, (Clearfield Co.)
 Matson, W. F. (1881), Pittsburg, Liberty Bank Building.
 Miller, James A., Hamilton.
 Miller, R. H., Hamilton.
 Murray, John H., Reynoldsville.
 Neale, J. Buchanan (1890), Reynoldsville.
 Newcome, John A. (1897), Sigel.
 Newcome, William C. (1894), Big Run.
 Rankin, M. M. (1888), Brockwayville.
 Reynolds, Samuel (1890), Reynoldsville.
 Sapp, F. W., Brockwayville.
 Shires, B. F., Rathmel.
 Stahlman, J. Calvin (1890), Richardsville.
 Thompson, Harry P. (1897), Portland Mills. (Elk Co.)
 Thompson, John, Portland Mills, (Elk Co.)
 Wilson, Charles A. (1894), DuBois, (Clearfield Co.)
 Wilson, Harry M., Evans City, (Butler Co.)
 Wilson, J. C. (1892), Titusville, (Crawford Co.)
 Williams, T. R. (1892), DeLancey.

JUNIATA COUNTY SOCIETY.

(Organized 1895.)

President.....Lucien Banks, Mifflintown.
 V. President...James G. Heading, Academia.
 Secretary.....Samuel A. Suloff, Patterson.
 Treasurer.....I. G. Heading, McAlisterville.
 Censors.....Isaac N. Grubb, Thompsonstown.
 Darwin M. Crawford, Jr., Mifflintown.
 William H. Haines, Thompsonstown.
 Amos W. Shelly, Port Royal.
 William H. Banks, Mifflintown.

Stated meetings in Jacobs House, Mifflintown, second Wednesday of January, April, July and October. Election of officers in January.

MEMBERS (14)

Banks, Lucien, Mifflintown.

Banks, William H., Mifflintown.
 Crawford, Darwin M., Mifflintown.
 Crawford, David M., Mifflintown.
 Deckard, J. W., Richfield.
 Fisher, Alfred J., McAlisterville.
 Grubb, Isaac N., Thompsonstown.
 Haines, William H., Thompsonstown.
 Heading, I. G., McAlisterville.
 Heading, James G., Academia.
 Ritter, Benjamin H., McCoytown.
 Shelly, Amos W., Port Royal.
 Suloff, Samuel A., Patterson.
 Williard, Herman F., Mexico.

LACKAWANNA COUNTY SOCIETY.

(Organized November 20, 1878.)

President.....P. Francis Gunster, Scranton.
 V. Presidents...Anna Law, Scranton.
 Arthur H. Bernstein, Scranton.
 Secretary.....Addison W. Smith, Scranton.
 Treasurer.....Lowell M. Gates, Scranton.
 Librarian.....Herbert D. Gardner, Scranton.
 Censors.....James L. Rea, Scranton.
 William G. Fulton, Scranton.
 Richard H. Gibbons, Scranton.

Meetings for 1899 in the Board of Health Rooms, City Hall, January 31, February 28, March 14th and 26th, April 11th and 25th, May 9th and 23rd, June 13th and 27th, July 11, August 8, September 12th and 26th, October 10, November 14, and 28th, December 12. Election of officers January 9, 1900.

MEMBERS (85)

(Scranton is the P. O. when street address only is given.)

Allen, William E., 512 Washington Ave.
 Ammann, John B., 406 Lark St.
 Arndt, Franklin F., 1515 Capouse Ave.
 Barnes, Lewis S., 345 Wyoming Ave.
 Bateson, John C., 337 N. Washington Ave.
 Beddoe, Benjamin G., 324 S. Main Ave.
 Bernstein, Arthur H., 1000 Webster Ave.
 Bessey, Herman, 1742 Church Ave.
 Billheimer, John J., Priceburg.
 Blanchard, George, 616 Spruce St.
 Bower, Ernest Z., Church Ave.
 Brown, George C., Dunmore.
 Burns, Reed, 316 Board of Trade.
 Caldwell, George O., 107 W. Market St.
 Capwell, Daniel A., 431 Wyoming Ave.
 Carroll, John J. (1887), 1309 Jackson St.
 Connell, Alexander J., Connell Building.
 Davidson, Francis B. (1885), Honorary, Fleetville.
 Davis, F. Whitney, Moses Taylor Hospital.
 Dean, G. Edgar (1885), 616 Spruce St.
 Decker, V. E., Fleetville.
 Dolan, William K. (1886), 516 Spruce St.
 Donne, William D., 137 W. Market St.
 Everhart, Isaiah F. (1885), 135 Franklin Ave.
 Everitt, Martha S., 308 N. Washington Ave.
 Fisher, Charles H., 304 Spruce St.
 Foster, Clarence E. (1898), Honesdale, (Wayne Co.)
 Fletcher, William W., Carbondale.
 Frey, C. Lewis, Scranton Savings Bank.
 Frey, Lewis, 306 N. Washington Ave.
 Fulton, William G. (1887), 433 Wyoming Ave.
 Gardner, Herbert D. (1884), Scranton Private Hospital.
 Gates, Lowell M. (1884), Board of Trade Bldg.
 Gibbons, Richard H. (1885), 441 Wyoming Ave.

Gibbs, L. Harrington (1880), 217 S. Main Ave.
 Grant, Joseph Foster, 345 Wyoming Ave.
 Grover, John Butler, Peckville.
 Gunster, P. Francis, Mulberry St.
 Hall, Frederick C., 214 N. Main Ave.
 Heath, William H., 1024 Scranton Ave.
 Hermans, Eugene A., 949 Scranton St.
 Jenkins, Daniel H., 1932 N. Main Ave.
 Kay, Thomas W., Scranton Private Hospital.
 Kearney, Patrick H., 319 Wyoming Ave.
 Kerling, George A., Moscow.
 Keller, William Edwin, 435 Wyoming Ave.
 Kennedy, Lucius, Moses Taylor Hospital.
 Kennedy, W. P., Dickson City.
 Knedler, J. Warren, Elmhurst.
 Law, Anna, 310 Wyoming Ave.
 Leet, Nathan Y., 211 Jefferson Ave.
 Logan, Harry V. (1885), 306 N. Washington Ave.
 Longstreet, Samuel P., 409 Wyoming Ave.
 McAndrews, Patrick H., Scranton Private Hospital.
 McGrath, John T., 312 Wyoming Ave.
 McGreevy, William H., 1392 Washington Ave.
 McKeage, Robert B., 309 N. Main Ave.
 Manley, James A., 1418 Pittston Ave.
 Murray, Gilbert D., 436 Wyoming Ave.
 Newton, James R., 301 Spruce St.
 Niles, John S., Carbondale.
 O'Brien, J. Emmett (1886), 201 Jefferson Ave.
 Paine, William A. (1885), 1202 Washburn St.
 Parke, Charles R., 306 N. Washington Ave.
 Pennypacker, Edward R. M., 205 Wyoming Ave.
 Price, John C., Dalton.
 Ray, James L. (1885), 1635 Sanderson Ave.
 Reedy, Walter M., 219 Wyoming Ave.
 Reynolds, George B., 205 N. Main Ave.
 Rodham, Thomas B., 1824 N. Main Ave.
 Roos, Gottstark E., 232 Adams Ave.
 Saltry, James F., 802 Capouse Ave.
 Seiler, Carl, 203 Jefferson Ave.
 Shumway, C. D., Jefferson Ave.
 Smith, Addison W., 511 N. Washington Ave.
 Stein James, cor. Wyoming & Mulberry.
 Sullivan, John J., 1838 N. Main Ave.
 Thomson, Charles E., Scranton Private Hospital.
 VanSickle, Frederick L. (1888), Olyphant.
 Voorhees, Samuel H., 1521 Pine St.
 Watson, D., Moosic.
 Wehlau, Ludwig, 322 Mulberry St.
 Wentz, John L., 205 Mears Building.
 Williams, Morgan J. (1886), 302 S. Main Ave.
 Zlupas, John, 431 Penn Ave.

LANCASTER CITY & COUNTY SOCIETY. (Organized Jan. 26, 1844; Incorporated April 15, 1844.)

President.....William Blackwood, Lancaster.
 V. Presidents...I. N. Lightner, Ephrata.
 Theodore B. Appel, Lancaster.
 Secretary.....Park P. Breneman, Lancaster.
 Treasurer.....George R. Rohrer, Lancaster.
 Cor. Sec'y.....Jacob R. Lehman, Mountville.
 Censors.....Miles L. Davis, Lancaster.
 George W. Berntheizel, Columbia.
 John B. Kohler, New Holland.
 Librarian.....Park P. Breneman, Lancaster.

Stated meetings in Lancaster the first Wednesday of each month at 1:30 P. M. Election of officers in January.

MEMBERS (114)

Alexander, Guy Levis, Buck.

Alexander, Hamill M. (1881), Marietta.
 Alleman, Frank (1898), Philadelphia, (Philadelphia Co.)
 Appel, Theodore B. (1897), Lancaster.
 Becker, Phares N., Mastersonville.
 Berntheizel, George W. (1877), Columbia.
 Biemesderfer, Frank I. (1898), Lancaster.
 Blackwood, William (1877), Lancaster.
 Blough, H. K. (1892), Elizabethtown.
 Bockius, S. A. (1872), Columbia.
 Bolenius, Robert M. (1881), Lancaster.
 Bowman, Abraham G. (1896), Lancaster.
 Breneman, Park P. (1898), Lancaster.
 Brenholtz, Walter S. (1893), Lancaster.
 Bryson, Lewis M. (1888), Paradise.
 Campbell, Robert A. (1896), Pine Bluff, N. C.
 Cassel, George L. (1898), Lancaster.
 Charles, Jacob (1883), Lincoln.
 Craig, Alexander (1869), Columbia.
 Craig, Alexander R. (1894), Columbia.
 Crawford, Samuel M. (1894), Columbia.
 Davis, Miles L. (1874), Lancaster.
 Davis, Samuel T. (1869), Lancaster.
 Day, George E. (1898), Strasburg.
 Denlinger, Maurice M. (1898), Rohrerstown.
 Detwiler, Thomas C. (1887), Lancaster.
 Dunlap, J. Francis, Manheim.
 Ehler, J. Augustus (1862), Lancaster.
 Franklin, Charles M. (1888), Lancaster.
 Frew, George (1896), Paradise.
 Garvey, Thomas Q., Lancaster.
 Gerhard, Milton U., Lancaster.
 Gillespie, George W. (1896), Pleasant Grove.
 Gray, Samuel G. (1892), Landisville.
 Harter, G. Alvin (1898), Maytown.
 Hartman, Frank G. (1898), Lancaster.
 Hassenplug, Harry G. (1898), Lancaster.
 Helm, Amos H. (1891), New Providence.
 Helm, Charles E. (1892), Bart.
 Hess, William G., Furniss.
 Herr, Ambrose J. (1876), Lancaster.
 Herr, Benjamin, F. (1881), Lancaster.
 Herr, Martin L. (1872), Lancaster.
 Herr, William H., Lancaster.
 Herr, William M., Rothsville.
 Hertz, John K. (1898), Lexington.
 Hertz, John L. (1875), Lititz.
 Hurst, M. W. (1891), Talmage.
 Ilyus, Edmund B. (1898), Lancaster.
 Ingram, Theodore E. (1896), Marietta.
 Irwin, Thaddeus S. (1898), Christiania.
 Kalbach, Adam M., Lancaster.
 Kauffman, W. L., Lancaster.
 Kendig, Benjamin E. (1888), Salunga.
 Keylor, W. N., Leacock.
 Kinard, George C., Lincoln.
 Kinard, John W. (1898), Lancaster.
 Kohler, John B. (1883), New Holland.
 Koser, S. B. (1896), Mountville.
 Kreiter, John S. (1884), Akron.
 Leaman, A. E. (1898), West Willow.
 Leaman, B. (1871), Leaman Place.
 Lehman, Jacob R. (1892), Mountville.
 Leslie, LeRoy K. (1892), Bareville.
 Lightner, I. N. (1881), Ephrata.
 Lineaweaver, John K. (1875), Columbia.
 Livingston, Thomas M. (1875), Columbia.
 Long, Howard S. (1898), Brickerville.
 McCormick, Daniel R. (1898), Lancaster.
 Markle, C. F. (1898), Columbia.
 Mayer, Isaac H. (1877), Willow Street.
 Miller, Abner M. (1876), Bird-in-Hand.
 Miller, Edwin J. (1898), Intercourse.

Miller, Samuel W. (1876), Lancaster.
 Mowery, H. A. (1886), Marietta.
 Mowery, Jacob L. (1883), Letort.
 Musser, Harry E. (1876), Witmer.
 Musser, J. Henry (1876), Lampeter.
 Myers, Harry F. (1895), Lancaster.
 Netscher, Charles E. (1891), Lancaster.
 Newpher, John J. (1884), Mount Joy.
 Parke, Alexander G. B. (1877), Gap.
 Pickel, I. Harry, Millersville.
 Reed, Joseph A. E. (1883), Lancaster.
 Reeder, Milton T. (1898), Millersville.
 Ringwalt, Martin (1883), Rohrerstown.
 Roebuck, Peter J. (1866), Lititz.
 Rohrer, George R. (1884), Lancaster.
 Rohrer, Thaddeus M. (1891), Quarryville.
 Roland Oliver (1878), Lancaster.
 Shartle, J. Miller (1891), Millersville.
 Shenk, D. H. (1884), Rohrerstown.
 Shenk, John H. (1883), Lititz.
 Showalter, Henry C. W., New Holland.
 Sides, Benjamin F., Furniss.
 Slaymaker, John M. (1898), Gap.
 Stubbs, Ambrose H. (1898), Wakefield.
 Syter, Daniel W. (1896), Churchtown.
 Sultzbach, Harry M. (1891), Lancaster.
 Trabert, J. William (1888), Annville, (Lebanon Co.)
 Trexler, Jacob F., Lancaster.
 Walter, Adam V. (1896), West Earl.
 Welchans, George R. (1879), Lancaster.
 Wentz, B. Frank (1898), Bainbridge.
 Wentz, Thomas H. (1891), Kirkwood.
 Wentz, William J. (1871), New Providence.
 Witmer, Elias H., Neffsville.
 Witmer, Isaac M. (1888), Conestoga.
 Work, Robert A. (1898), Buck.
 Worth, William T., Mechanic Grove.
 Yost, J. F., Bethesda.
 Zeigler, Jacob L. (1865), Mount Joy.
 Zeigler, James P. (1881), Mount Joy.
 Zell, John W., Fairmount.

LAWRENCE COUNTY SOCIETY.

(Reorganized October, 1897.)

President.....John A. Smith, New Castle.
 V. President...
 Secretary.....Robert G. Miles, New Castle.
 Treasurer.....John Cooper McKee, New Castle.
 Censors.....George J. Boyd, Ellwood City.
 John Foster, New Castle.
 James K. Pollock, New Castle.

Stated meetings the first Thursday of January, April, July and October. Election of officers in October.

MEMBERS (22)

Blackwood, Thomas J., New Castle.
 Boyd, George J., Ellwood City.
 Cook, Albert M., New Castle.
 Cooper, Jesse R., New Castle.
 Cooper, Joseph L., New Castle.
 Davis, Charles W., Mahoningtown.
 Donnan, Edmund A., New Castle.
 Foster, John, New Castle.
 Iseman, Charles M., Ellwood City.
 Linville, Montgomery, New Castle.
 McKee, J. Cooper, New Castle.
 Miles, Robert G., New Castle.
 Moore, Jesse D., New Castle.
 Pollock, James K., New Castle.
 Reed, Charles A., New Castle.
 Smith, John A., New Castle.

Sproull, John P., Plain Grove.
 Vosler, D. C., Princeton.
 Wallace, Robert A., New Castle.
 Wallace, Robert D., New Castle.
 Wilson, Loyd W., Mahoningtown.
 Wilson, William G., New Castle.

LEBANON COUNTY SOCIETY.

(Organized May 10, 1851.)

President.....Joseph R. Beckley, Lebanon.
 V. Presidents..James A. Harris, Jonestown.
 Charles M. Strickler, Lebanon.
 Secretary.....Charles L. Miller, Lebanon.
 Treasurer.....Albert S. Reiter, Myerstown.
 Censors.....Henry H. Roedel, Lebanon.
 Albert S. Reiter, Myerstown.
 William M. Guilford, Lebanon.

Stated meetings the second Tuesday of each month at 2 o'clock P. M., at the Eagle Hotel, Lebanon. Election of officers in January.

MEMBERS (16)

Beckley, Joseph R. (1888), Lebanon.
 Gass, H. W., Mt. Aetna, (Berks Co.)
 Gingrich, Edward H. (1897), Lebanon.
 Grumbine, Ezra (1898), Mt. Zion.
 Guilford, William M. (1887), Lebanon.
 Harris, James A., Jonestown.
 Heilman, Samuel P. (1883), Heilmandale.
 Klein, Warren F. (1895), Lebanon.
 Light, John J., Schaefferstown.
 Miller, Charles L. (1894), Lebanon.
 Reiter, Albert S. (1898), Myerstown.
 Roedel, Henry H., Lebanon.
 Roedel, William R. (1896), Lebanon.
 Strickler, Charles M. (1896), Lebanon.
 Walter, John (1891), Lebanon.
 Warner, David H., Lebanon.

LEHIGH COUNTY SOCIETY.

(Organized 1859.)

President.....William A. Riegel, Catasauqua.
 V. Presidents..James L. Hornbeck, Catasauqua.
 Fred C. Seiberling, Lynnville.
 Secretary.....Philip L. Reichard, Allentown.
 Cor. Sec'y.....Herbert H. Herbst, Allentown.
 Treasurer.....Eugene H. Dickenshied, Allentown.
 Censors.....Orlando Fegley, Allentown.
 John Lear, Allentown.
 Martin J. Backenstoe, Emaus.
 Curator.....Nathaniel C. E. Guth, Allentown.

Stated meetings held at the Hotel Allen, Allentown, on the second Tuesday of January, March, May, July, September and November. Election of officers in January.

MEMBERS (44)

Albright, Roderick E., Allentown.
 Backenstoe, Martin J. (1894), Emaus.
 Bauer, John, Allentown.
 Bingham, Edwin M., Old Zionsville.
 Cawley, Morris F. (1891), Allentown.
 Dickenshied, Eugene H., Allentown.
 Diller, John R. (1894), Emaus.
 Erdman, Albert J. (1896), Allentown.
 Erdman, J. Dallas, Allentown.
 Erdman, William B. (1865), Macungie.
 Eschbach, William W., Allentown.
 Fegley, Orlando, Allentown.
 Fogel, Solon C. B., Fogelsville.
 Frey, Robert D., Allentown.

Guth, Nathaniel C. E., Allentown.
 Hartzell, William H. (1875), Allentown.
 Hendricks, Augustus W., Allentown.
 Herbst, Herbert H. (1896), Allentown.
 Horn, Henry Y., Coplay.
 Hornbeck, James L. (1898), Catasauqua.
 Hornbeck, Molten E. (1892), Catasauqua.
 Huff, Irwin F., Schnecksville.
 Keim, Harry J. S. (1898), Catasauqua.
 Kern, Alvin J. (1896), Slatington.
 Kiem, Charles J., Catasauqua.
 Kistler, Jesse G., Germansville.
 Klots, Robert J., Rittersville.
 Lear, John (1894), Allentown.
 Martin, Charles S. (1894), Allentown.
 Mickley, Howard P., Neffs.
 Miller, Albert N. (1898), East Texas.
 Miller, Aaron S., Saegersville.
 Otto, Calvin J., Allentown.
 Reichard Philip L. (1892), Allentown.
 Riegel, Henry H. (1891), Catasauqua.
 Riegel, William A. (1891), Catasauqua.
 Ritter, Nathaniel, Allentown.
 Schaeffer, Charles D. (1895), Allentown.
 Scheirer, Franklin B., Allentown.
 Scherer, Thomas A., Catasauqua.
 Seiberling, Fred C. (1896), Lynnville.
 Seiberling, George F., Allentown.
 Yost, Alfred J., Allentown.
 Young, Robert W. (1891), Slatington.

LUZERNE COUNTY SOCIETY.

(Organized March, 1861.)

President..... Maris Gibson, Wilkesbarre.
 V. Presidents.. Walter Lathrop, Hazelton.
 Frank A. Farrell, Kingston.
 Sec'y & Treas.. Ernest U. Buckman, Wilkes-
 barre.
 Ed'r & Libra'n. Lewis H. Taylor, Wilkesbarre.
 Censors..... George W. Guthrie, Wilkesbarre.
 Walter S. Stewart, Wilkesbarre.
 William R. Longshore, Hazelton.

Stated meetings, Room 4, Anthracite Building,
 Wilkesbarre, first and third Wednesdays of each
 month at 8 o'clock P. M. Election of officers first
 Wednesday in January.

MEMBERS (78)

Barney, Delbert, Wilkesbarre.
 Barton, A. Arthur (1881), Plains.
 Barton, H. C., Wilkesbarre.
 Beckwith, J. Fabius, Plymouth.
 Berge, William H., Avoca.
 Biehl, Jefferson P., Plymouth.
 Brooks, Allan C., Wilkesbarre.
 Brooks, James (1886), Plains.
 Brundage, F. M., Conyngham.
 Buckman, Ernest U., Wilkesbarre.
 Carr, George W., Wilkesbarre.
 Clark, George A. (1892), Wilkesbarre.
 Collins, Daniel W., Wilkesbarre.
 Corss, Frederick (1869), Kingston.
 Davis, Walter, Wilkesbarre.
 Diefenderfer, Harold, Wilkesbarre.
 Dodson, Boyd, Wilkesbarre.
 Dougherty, Anthony F., Ashley.
 Edwards, Lewis, Edwardsdale.
 Farrell, Frank A., Kingston.
 Faulds, William H. (1885), Kingston.
 Fell, Alexander G., Wilkesbarre.
 Foss, Walter B., Ashley.
 Geist, James W., Wilkesbarre.

Gibson, Maris, Wilkesbarre.
 Gilbride, John J., Philadelphia, (Philadelphia Co.)
 Goldberger, Joseph, Wilkesbarre.
 Guthrie, George W. (1885), Wilkesbarre.
 Hakes, Harry (1885), Wilkesbarre.
 Hartman, William L. (1898), Pittston.
 Harvey, Olin F. (1894), Wilkesbarre.
 Hileman, John S. (1892), Pittston.
 Holly, Samuel L., Nanticoke.
 Howell, John T. (1886), Wilkesbarre.
 Hutchins, Richard H., Pittston.
 James, Thomas A., Ashley.
 Johnson, Frederick (1886), Wilkesbarre.
 Jones, J. Harris, Wilkesbarre.
 Knapp, Charles P. (1884), Wyoming.
 Kunkle, Henry, Kingston.
 Lathrop, Walter (1894), Hazelton.
 Lenahan, Frank P. (1897), Wilkesbarre.
 Long, Charles (1885), Wilkesbarre.
 Longshore, William R. (1884), Hazelton.
 McFadden, Charles J. (1894), Pittston.
 McKee, Frank L., Plymouth.
 McKellar, James, Hazelton.
 Mahon, John B., Wilkesbarre.
 Matlack, Granville T., Wilkesbarre.
 Meixell, Edwin W., Wilkesbarre.
 Mengel, Samuel P., Parsons.
 Miner, Charles H., Wilkesbarre.
 Neale, Henry M., Upper Lehigh.
 Prevost, Clarence W., Pittston.
 Roderick, E. R., Wilkesbarre.
 Roe, J. Irving, Wilkesbarre.
 Rogers, L. Leonidas (1888), Kingston.
 Ross, Nathaniel, Wilkesbarre.
 Ruffner, Samuel A., Wilkesbarre.
 Singer, James A., Forty Fort.
 Shoemaker, Levi I., Wilkesbarre.
 Smith, W. Clive, Wilkesbarre.
 Solt, Thomas J., Mountain Top.
 Spencer, C. A., Dallas.
 Stewart, Walter S. (1891), Wilkesbarre.
 Stoeckel, Louise M. (1892), Wilkesbarre.
 Sweeney, Edward A., Wilkesbarre.
 Taylor, Lewis H. (1883), Wilkesbarre.
 Taylor, Richard P., Wilkesbarre.
 Thompson, James R., Pittston.
 Underwood, S. L., Pittston.
 Wagner, Edward C. O., Wilkesbarre.
 Weaver, William G. (1885), Wilkesbarre.
 Wetherby, Benedict J., Wilkesbarre.
 Whitney, Harry LeRoy (1891), Plymouth.
 Wolfe, Samuel M., Wilkesbarre.
 Young, William W., Nanticoke.
 Zelweiss, Joanna, Plymouth.

LYCOMING COUNTY SOCIETY.

(Organized 1849.)

President..... Sidney Davis, Milton.
 V. Presidents.. W. E. Delaney, Slate Run.
 Charles M. Adams, Williamsport.
 Secretary..... Wesley F. Kunkle, Williamsport.
 Treasurer..... Benjamin H. Detwiler, Williams-
 port.
 Censors..... Louis Schneider, Williamsport.
 John A. Klump, Williamsport.
 Horace G. McCormick, Williams-
 port.
 G. Franklin Bell, Newberry.
 George D. Nutt, Williamsport.

Stated meetings at City Hospital, Williamsport,
 second Friday of each month at 1:30 P. M. An-
 nual meeting in April.

MEMBERS (88)

(Williamsport is the P. O. when the street address only is given.)

Adams, Charles M. (1891), 1025 West 4th St.
 Albright, Chester E. (1898), Muncy.
 Albright, Joseph W. (1893), Muncy.
 Bailey, Frederick H., Ralston.
 Bastian, Charles B. (1893), Salladasburg.
 Bell, G. Franklin (1891), Newberry.
 Born, Reuben H. (1893), Montoursville.
 Campbell, E. B. (1893), 42 West 4th St.
 Castlebury, Alzine M., Williamsport.
 Castlebury, F. F., Roaring Branch.
 Chaapel, Victor P., Newberry.
 Christian, J. Loomis (1893), Lopez, (Sullivan Co.)
 Collins, W. L., Potts Grove, (Northumberland Co.)
 Dandois, G. Frank, Liberty, (Tioga Co.)
 Davis, Sidney (1892), Milton, (Northumberland Co.)
 Delaney, W. E. (1893), Slate Run.
 Derr, Joseph L., Muncy Valley, (Sullivan Co.)
 Detwiler, Benjamin H. (1866), 117 West 3d St.
 Donaldson, Harry J., 339 Pine Street.
 Dougal, Charles H. (1893), Milton, (Northumberland Co.)
 Emerick, Henry M. (1892), Milton, (Northumberland Co.)
 Essick, Howard M. (1893), Picture Rocks.
 Everett, Edward, Millville, (Columbia Co.)
 Fleming, J. Frank (1892), Trout Run.
 Glosser, William E., 430 Pine St.
 Haley, E. McIntyre, Blossburg, (Tioga Co.)
 Haskins, Herbert P., 428 Pine St.
 Heberton, Charles M., Hughesville.
 Heller, Charles E. (1893), 214 E. Third St.
 Horn, Elmer E., Austin, (Potter Co.)
 Hughes, Daniel, Blockley Hospital, Philadelphia.
 Hull, Allen P. (1892), Montgomery.
 Hull, Elmer S. (1898), Montgomery.
 Hull, Waldo W. (1889), 125 West 3d St.
 Hull, William R. (1864), 330 Walnut St.
 Johnson, Newell L., 629 West 4th St.
 Kiess, Daniel E., Hughesville.
 Kimble, Z. Ellis (1888), Liberty, (Tioga Co.)
 King, W. L., Lairdsville.
 Klump, George B., Bellefonte, (Center Co.)
 Klump, John A. (1892), 331 Elmira St.
 Konkle, W. Bastian (1893), Montoursville.
 Kunkle, Wesley F. (1893), 516 Fifth Ave.
 Logue, William P., 109 West 3d St.
 Lyon, Edward (1871), 20 W. 4th St.
 Lyon, Edward, Jr., Williamsport.
 McCormick, Horace G. (1890), 24 W. 4th St.
 Mansuy, J. L., Ralston.
 Marsh, William G., Watstown, (Northumberland Co.)
 Martin, Charles L., Cammal.
 Mench, Martin L., Jersey Shore.
 Meter, Edward G. (1897), Reading.
 Metzgar, George W., Hughesville.
 Miller, William H., 18 E. 3d St.
 Milnor, Mahlon T. (1893), Warrensville.
 Milnor, R. H. (1897), Warrensville.
 Nevins, John (1893), Jersey Shore.
 Nevling, F. S. (1892), Karthaus, (Clearfield Co.)
 Nutt, George D. (1873), 430 Pine St.
 Page, Melvin E., Picture Rocks.
 Persing, Amos V., Allenwood, (Union Co.)
 Randall, William H., 480 Hepburn St.
 Raper, Thomas W., Lairdsville.

Reilly, Peter C. (1893), 238 Pine St.
 Rich, Thomas C. (1888), 516 W. 4th St.
 Richter, Augustus, 436 Market St.
 Ritter, Ella N., 600 Seventh Ave.
 Ritter, H. Murray, 42 West 4th St.
 Rote, William H. (1893), 342 W. 4th St.
 Schaeffer, J. E., Lycoming.
 Schneider, Charles (1896), Slath Williamsport.
 Schneider, Louis (1885), 235 E. 4th St.
 Schull, John D. (1896), Hotel Crawford.
 Smith, George A., Liberty, (Tioga Co.)
 Steans, J. Charlton, Mifflinburg, (Union Co.)
 Steans, Ralph, Mifflinburg, (Union Co.)
 Stokes, Andrew J., 106 E. 4th St.
 Thornton, T. C. (1892), Lewisburg, (Union Co.)
 Trainor, Robert F., 310 Elmira St.
 Truckenmiller, W. N., Allenwood, (Union Co.)
 Tule, R. Bruce, Montandon, (Northumberland Co.)
 Van Horn, John W., Farragut.
 Voorhees, Charles D., Instantner, (Elk Co.)
 Wackenhuth, Charles F. (1893), Laporte, (Sullivan Co.)
 Welker, Abraham T. (1893), Collomsville.
 Willson, Harry G., Warrensville.
 Yost, B. Meyers (1893), Linden.
 Youngman, Charles W. (1884), 601 Pine St.

McKEAN COUNTY SOCIETY.

(Organized 1880.)

President.....Sullivan B. Dorn, Bradford.
 V. President...William J. Armstrong, Kane.
 Sec'y & Treas..Adelaide M. Griffin, Bradford.
 Censors.....Henry L. McCoy, Smethport.
 Chester S. Hubbard, Bradford.
 Samuel H. Haines, East Bradford.

Stated meetings in Bradford the first Tuesday of each month. Election of officers in October.

MEMBERS (36)

Armstrong, William J., Kane.
 Ash, Dunham E., East Bradford.
 Bartlett, Frank H., Bradord.
 Benninghoff, George E., Bradford.
 Brown, John C., Smethport.
 Burdick, William P., Mt. Jewett.
 Canfield, Harris A., Bradford.
 Chadwick, Burg, Smethport.
 Chesney, Henry C., Custer City.
 Clark, John, Smethport.
 Dorn, Sullivan B., Bradford.
 Fredericks, Walter J., Duke Center.
 Gibson, William R., Bradford.
 Griffin, Adelaide M., Bradford.
 Haines, Samuel H., East Bradford.
 Hayes, Mary J., Kane.
 Hottel, Walter B., Kane.
 Hubbard, Chester S., Bradford.
 Humphreys, Thomas R., Mt. Alton.
 Johnston, James, Bradford.
 Kane, Elizabeth D. (1896), Kane.
 Kane, Evan O. (1896), Kane.
 Kane, Thomas L. (1898), Kane.
 King, John W., Bradford.
 Larson, Louis A., Kane.
 McCleery, James B., Kane.
 McCoy, Henry L., Smethport.
 Nason, John B., Mt. Jewett.
 Nichols, Henry James, Bradford.
 Preston, George H., Kane.
 Russell, Walter J., Bradford.
 Straight, A. Miner, Bradford.

Sweeney, Martin J., Kane.
 Topham, Mary E., Kane.
 Walker, James Chambers, Bradford.
 Winger, Frederick W. (1898), Bradford.

MERCER COUNTY SOCIETY.

(Organized 1848.)

President..... Thomas Elliott, Sharon.
 V. Presidents.. Anson T. Clark, Greenville.
 Montrose M. Magoffin, Mercer.
 Secretary..... John T. Shutt, Greenville.
 Treasurer..... Frederick G. Byles, Fredonia.
 Censors..... George W. Shilling, Sharon.
 John H. Twitmyer, Sharpsville.
 Montrose M. Magoffin, Mercer.
 Examiners..... John T. Shutt, Greenville.
 Henry A. Armstrong, Sharon.
 James B. McElrath, Jackson Center.

Stated meetings in Greenville, second Friday in January and April; in Mercer, second Friday in July and October. Election of officers in January.

MEMBERS (31)

Armstrong, Henry A. (1898), Sharon.
 Bachop, John C. (1897), Sheakleyville.
 Barnes, M. A., Pardoe.
 Byles, Frederick G. (1897), Fredonia.
 Cheesman, J. C., Grove City.
 Clark, Anson T. (1871), Greenville.
 Elliott, John W., Sharon.
 Elliott, Thomas, Sharon.
 Hanna, D. B., Stoneboro.
 Heilman, Salem (1874), Sharon.
 Hillier, Joseph W. (1878), West Middlesex.
 Hope, Robert M. (1895), Mercer.
 Jackson, T. M. (1878), Hadley.
 Livingston, James B. (1869), West Middlesex.
 McConnell, Edwin M., Grove City.
 McElrath, James B. (1874), Jackson Center.
 Magoffin, Montrose M. (1890), Mercer.
 Martin, John M., Grove City.
 Mitchell, Thomas H. (1884), Jamestown.
 Mosman, Beriah E. (1870), Greenville.
 Nelson, John M., Worth.
 Reed, Joseph H. (1880), Sharon.
 Scoville, James M. (1890), Sharpsville.
 Seidel, Charles T. W., Worth.
 Shilling, George W., Sharon.
 Shutt, John T. (1880), Greenville.
 Thompson, J. C., New Lebanon.
 Tidd, Ebenezer J., Clark.
 Twitmyer, John H. (1875), Sharpsville.
 Washabaugh, David J., Grove City.
 Weidman, J. Clayton, Mercer.
 Yeager, G. M., Mercer.

MIFFLIN COUNTY SOCIETY.

(Organized March 4, 1874.)

President..... Walter S. Wilson, McVeytown.
 V. Presidents.. Benjamin R. Kohler, Reedsville.
 John P. Getter, Belleville.
 Secretary..... James A. C. Clarkson, Lewistown.
 Treasurer..... Alexander S. Harshberger, Lewistown.
 Censors..... John P. Getter, Belleville.
 Walter H. Parcels, Lewistown.
 John R. Hunter, Lewistown.

Stated meetings in Lewistown, or elsewhere, as may be selected, on the second Tuesday of January, April, July and October. Election of officers in April.

MEMBERS (13)

Bigelow, Brown A. (1885), Belleville.
 Clarkson, James A. C. (1888), Lewistown.
 Getter, John P. (1888), Belleville.
 Harshberger, Alexander S. (1875), Lewistown.
 Hunter, John R. (1897), Lewistown.
 Kohler, Benjamin R., Reedsville.
 McKim, Vincent I., Burnham.
 Moorehouse, William G. (1893), Broad St. Station, Philadelphia.
 Nipple, D. Clark, Newton Hamilton.
 Parcels, Walter H. (1896), Lewistown.
 Rothrock, Samuel H. (1895), Reedsville.
 Sweigart, Henry W. (1885), Lewistown.
 Wilson, Walter S. (1883), McVeytown.

MONTGOMERY COUNTY SOCIETY.

(Organized 1847.)

President..... David H. Bergey, Philadelphia.
 V. Presidents.. Percy H. Corson, Plymouth Meeting.
 Herbert A. Arnold, Ardmore.
 Secretary..... Harry H. Whitcomb, Norristown.
 Cor. Sec'y..... Joseph K. Weaver, Norristown.
 Treasurer..... S. Nelson Wiley, Norristown.
 Censors..... Henry F. Slifer, North Wales.
 Elmer G. Kriebel, Worcester.
 Charles H. Mann, Bridgeport.
 Examiners..... Samuel B. Horning, Lower Providence.
 John W. Groff, Harleysville.
 James R. Care, Worcester.

Stated meetings in the Charity Hospital, Norristown, on the Wednesday on or before the first full moon of each month, except July and August. Election of officers in January.

MEMBERS (54)

Allison, Robert H. (1891), Ardmore.
 Anderson, Joseph W. (1872), Ardmore.
 Arnold, Herbert A. (1883), Ardmore.
 Baggs, A. M., Abington.
 Bennett, Alice (1881), Norristown.
 Bergey, David H. (1887), 21 North 36th St., Philadelphia.
 Bickel, Samuel D., Norristown.
 Care, James R. (1898), Worcester.
 Corson, Ellwood M. (1876), Norristown.
 Corson, Percy H. (1896), Plymouth Meeting.
 Crabtree George H., Lead, S. D.
 Davis, John (1883), Pottstown.
 Drake, Howard H. (1879), Norristown.
 Egbert, Joseph C., Wayne, (Delaware Co.)
 Eisenberg, Philip Y. (1874), Norristown.
 Faries, Clarence F., Narberth.
 Groff, John W. (1890), Harleysville.
 Hall, William M. (1884), Conshohocken.
 Hartman, George F. (1890), Port Kennedy.
 Highley, George N. (1884), Conshohocken.
 Horning, Samuel B., Lower Providence.
 Hough, Charles B., Ambler.
 Hunsberger, J. Newton (1891), Skippack.
 Jarrett, Harry (1888), Camden, N. J.
 Kane, James J. (1894), Norristown.
 Knipe, Jacob O. (1879), Norristown.
 Knipe, Reineohl, Norristown.
 Kriebel, Elmer G., Worcester.
 McCaffrey, George W. (1898), Norristown.
 McGrath, Francis, Norristown.
 McKensie, William (1898), Conshohocken.
 Mann, Charles H. (1876), Bridgeport.
 Markeley, Paul H. (1894), Hatboro.

Mewhinney, James C. (1891), Spring City, (Chester Co.)
 Miller, Edgar T., King of Prussia.
 Miller, William G., Norristown.
 Read, Alfred H., Norristown.
 Read, Louis W. (1883), Norristown.
 Richards, Emma E. (1888), Norristown.
 Seiple, J. Howard, Centre Square.
 Seiple, Samuel C. (1898), Center Square.
 Shelley, D. Webster, Ambler.
 Slifer, Henry F. (1892), North Wales.
 Spear, John C. (1894), Norristown.
 Stiles, Geo. M. (1876), Conshohocken.
 Unstad, John R. (1888), Norristown.
 Van Artsdalen, Franklin V. (1884), 1602 Tioga St., Philadelphia.
 Watson, Florence H. (1894), Norristown.
 Weaver, John D. (1890), Norristown.
 Weaver, Joseph K. (1875), Norristown.
 Weber, C. Zeigler (1883), Norristown.
 Weber, Matthias Y., Lower Providence.
 Wiley, S. Nelson (1891), Norristown.
 Wilson, Franciscus S. (1884), Jarretstown.
 Whitcomb, Harry H. (1881), Norristown.

MONTOUR COUNTY SOCIETY.

(Organized 1874.)

President.....R. Erskine Johnston, Danville.
 V. Presidents..Benjamin E. Bitler, Washingtonville.
 H. Herbert Adams, Danville.
 Secretary.....John R. Kimerer, Danville.
 Cor. Sec'y.....Charles B. Mayberry, Danville.
 Treasurer.....Philip C. Newbaker, Danville.

Stated meetings in Danville, third Tuesday in each month at 8 P. M. Election of officers in June.

MEMBERS (14)

Adams, W. Herbert (1895), Danville.
 Bitler, Benjamin E., Washingtonville.
 Curry, Edwin A. (1893), Danville.
 Hoffa, Jacob P. (1882), Washingtonville.
 Johnston, R. Erskine (1896), Danville.
 Kimerer, John R. (1896), Danville.
 McCuaig, John E., Danville.
 Mayberry, Charles B. (1891), Danville.
 Meredith, Hugh B. (1891), Danville.
 Newbaker, Philip C. (1879), Danville.
 Oglesby, James (1875), Danville.
 Robbins, James E. (1896), Danville.
 Shultz, Cameron, (1898), Danville.
 Smith, Nelson M. (1884), Riverside, (Northumberland Co.)
 Thompson, Samuel Y., Danville.

NORTHAMPTON COUNTY SOCIETY.

(Organized June, 1849.)

President.....Adam L. Kotz, Easton.
 V. Presidents..H. Threlkeld Edwards, South Bethlehem.
 Kate DeW. Miesse, Easton.
 Secretary.....Francis H. Erwin, South Bethlehem.
 Cor. Sec'y.....J. Edgar Fretz, Easton.
 Treasurer.....Amos Seip, Easton.
 Censors.....Joseph S. Hunt, Easton.
 David H. Keller, Bangor.
 Edwin D. Schnabel, Bethlehem.

Stated meetings third Friday of April, at Easton; of June, at Bath; of August, at Bangor; of December, at Easton; of February, at Bethlehem;

in October, on St. Luke's Day, at Bethlehem. Election of officers in April.

MEMBERS (66)

Anderson, George R. (1895), Easton.
 Andreas, Benjamin A. (1891), South Bethlehem.
 Apple, Samuel S. (1894), Easton.
 Arndt, Oliver E. E., Easton.
 Beck, Charles E. (1898), Portland.
 Beck, Richard H. (1884), Hecktown.
 Berlin, James O. (1884), Bath.
 Brown, Alfred, Hellertown.
 Collmar, Charles (1895), Easton.
 Cope, Thomas (1883), Nazareth.
 Dillard, Benjamin F. (1893), East Bangor.
 Dudley, William H. (1896), Easton.
 Edwards, H. Threlkeld (1897), South Bethlehem.
 Engleman, David (1876), Easton.
 Erwin, Francis H. (1894), South Bethlehem.
 Estes, William L. (1885), South Bethlehem.
 Evans, E. William (1897), Easton.
 Frace, Peter W. (1897), Easton.
 Fraunfelder, Jacob Adam, Nazareth.
 Fretz, J. Edgar, Easton.
 Green, Edgar M. (1888), Easton.
 Hahn, J. F., Bath.
 Harris, Amos J., Hellertown.
 Haughwout, Bert, Portland.
 Hunt, Joseph S. (1883), Easton.
 Johnson, Irwin N., Pen Argyl.
 Kasten, William H., Chapman's Quarries.
 Keller, David H. (1886), Bangor.
 Keller, John C., Wind Cap.
 Koch, John G. (1896), Petersburg.
 Kotz, Adam L. (1894), Easton.
 Laciur, Henry J. (1897), Bethlehem.
 Lawall, Levi H. (1892), Bethlehem.
 Longacre, Jacob E., Weaversville.
 McAllister, Anna M., 2045 Chestnut St., Philadelphia.
 McIlhany, W. H. (1888), South Easton.
 McIntire, Charles (1876), Easton.
 Michler, Henry D., Easton.
 Miesse, Kate DeW. (1891), Easton.
 Miller, Elmer C., East Bangor.
 Moore, James W. (1888), Easton.
 Ott, Isaac (1871), Easton.
 Raub, Jacob F., Washington, D. C.
 Reagan, Arthur D., Easton.
 Rentzheimer, William H. (1894), Hellertown.
 Roebuck, John H. (1885), Bethlehem.
 Roseberry, Edward S., Stone Church.
 Schnabel, Edwin D. (1894), Bethlehem.
 Seem, Albert A. (1879), Bangor.
 Seip, Amos (1863), Easton.
 Seip, William H. (1883), Bath.
 Shimer, Sterling D. (1897), Easton.
 Steinmetz, Edwin G. (1875), Hokendaqua, (Lehigh Co.)
 Stem, Preston E., South Bethlehem.
 Stout, Abraham (1883), Bethlehem.
 Swartz, George N. (1892), Pen Argyl.
 Swoyer, Oscar D. (1894), South Bethlehem.
 Uhler, Sydenham P., Easton.
 Uhler, Tobias M. (1884), 3120 Montgomery Ave., Philadelphia.
 Updegrove, Jacob D. (1891), Easton.
 Walker, William P., South Bethlehem.
 Weaver, Samuel J. (1875), Bethlehem.
 Wickert, Peter O. (1897), South Bethlehem.
 Wilhelm, Eugene T. (1895), South Bethlehem.
 Wilson, John H. (1888), Bethlehem.
 Zulick, Thomas C. (1893), Easton.

NORTHUMBERLAND COUNTY SOCIETY.

(Organized March 11, 1891.)

President.....J. J. Keller, Seven Points.
 V. President...Philip H. Renn, Sunbury.
 Secretary.....William B. Stoner, Sunbury.
 Treasurer.....William W. Moody, Sunbury.
 Censors.....Sidney Davis, Milton.
 Benjamin L. Kerehner, Dalmatia.
 Edward B. Cooper, Sunbury.

Stated meetings on the third Thursday of each month, at 2 P. M., at the Court House, Sunbury.
 Election of officers in November.

MEMBERS (26)

Allison, John R. G., Northumberland.
 Awl, Robert H., Sunbury.
 Burg, Horace W., Northumberland.
 Campbell, Charles F., Sunbury.
 Clark, Alfred C. (1894), Sunbury.
 Clark, Frank A., Shamokin.
 Conser, Thomas C., Sunbury.
 Cooper, Edward B., Sunbury.
 Derr, Fuller S. (1896), Watontown.
 Drumheller, Francis E., Sunbury.
 Flanagan, Michael J., Shamokin.
 Gilbert, Samuel F. (1898), Elysburg.
 Graham, W. T., Sunbury.
 Hickey, Thomas B., Shamokin.
 Keller, J. J. (1896), Seven Points.
 Kerehner, Benjamin L. (1892), Dalmatia.
 McWilliams, Kimber C., Shamokin.
 Moody, William W., Sunbury.
 Renn, Philip H. (1894), Sunbury.
 Robins, Edwin S., Shamokin.
 Sheets, John W., Northumberland.
 Shindle, Will L. (1896), Sunbury.
 Stoner, William B. (1894), Sunbury.
 Swenk, Charles, Sunbury.
 Wagenseller, B. F. (1897), Selinsgrove, (Snyder Co.)
 Wenck, Mary A. M. (1895), Sunbury.

PERRY COUNTY SOCIETY.

(Organized November 19, 1890.)

President.....Alburtus T. Ritter, Loysville.
 V. President...L. M. Shumaker, Ellittsburg.
 Secretary.....Arthur D. VanDyke, Marysville.
 Treasurer.....David B. Milliken, Landisburg.

Annual meeting second week in January. Other meetings at times and places selected; at least four during the year.

MEMBERS (23)

Barnett, Robert T., Duncannon.
 Bryner, J. H. (1896), Ikesburg.
 Brothers, Wm. R., New Bloomfield.
 DeLaney, Charles E. (1896), Newport.
 Eby, James B. (1873), Newport.
 Gutshall, Frank A. (1896), Blaine.
 Hooke, Benj. P., Loysville.
 Hoopes, W. Homer, Newport.
 Johnston, A. Russell, New Bloomfield.
 Milliken, David B. (1866), Landisburg.
 Mitchell, George W., Andersonburg.
 Moore, Edward E., New Bloomfield.
 Orris, Henry O. (1873), Newport.
 Reutter, Harry D., Duncannon.
 Ritter, Alburtus T., Loysville.
 Ruch, William S., Marysville.
 Shearer, Alfred L., Duncannon.
 Sheibly, J. A., Shermansdale.
 Sheibly, James P., Landisburg.

Shumaker, L. M., Ellittsburg.
 Strickler, Melchior B., Washington, D. C.
 Thompson, James F., Liverpool.
 VanDyke, Arthur D. (1888), Marysville.

PHILADELPHIA COUNTY SOCIETY.

(Organized 1849. Incorporated Oct. 2, 1877.)

(Philadelphia is the P. O. when the street address only is given.)

President.....Solomon Solis Cohen, 219 S. 17th St.
 V. Presidents..John H. Musser, 1917 Chestnut St.
 George Erety Shoemaker, 3727 Chestnut St.
 Secretary.....Ellwood R. Kirby, 1202 Spruce St.
 Asst. Sec'y....William S. Wray, 26 S. 18th St.
 Treasurer.....Collier L. Bower, 1433 Walnut St.
 Censors.....Thos. H. Fenton, 1319 Spruce St.
 Fred P. Henry, 1635 Locust St.
 W. Joseph Hearn, 1120 Walnut St.
 Wm. M. Welch, 821 N. Broad St.
 H. St. Clair Ash, 1335 Fairmount Ave.

Stated meetings for business the third Wednesday of January, April, June and October. Election of officers in January. Scientific meeting the second and fourth Wednesdays of each month, except July and August. All at the College of Physicians, northeast corner of 13th and Locust streets, at 8 P. M.

MEMBERS (716)

Abbott, A. C., 221 S. 44th.
 Adams, Jeannie S. (1898), 1205 Spruce.
 Adams, J. Howe, 1523 Locust.
 Adler John M. (1888), 1028 Spruce.
 Adler, Lewis H., Jr. (1884), 1610 Arch.
 Allen, Joshua G. (1884), 1237 Spruce.
 Allen, Mary E. (1891), 346 S. 16th.
 Allis, Oscar H. (1874), 1604 Spruce.
 Allyn, Herman B., S. E. Cor. 42d and Baltimore Ave.
 Alrich, William, Carpenter and Main, Germantown.
 Anders, Howard S. (1894), 1836 Wallace.
 Anders, James M. (1883), 1605 Walnut.
 Andrews, T. Hollingsworth (1876), 1119 Spruce.
 Angney, William M. (1884), 519 Spruce.
 Apeldorn, Ernest F. (1894), 2113 Howard.
 Applebach, Harry E., 638 Diamond.
 Arnold, John P., 3722 Walnut.
 Ash, Henry St. Clair (1862), 1335 Fairmount Ave.
 Ashhurst, John, Jr. (1881), 2000 W. Delancey Place.
 Ashhurst, Samuel (1876), 2308 W. Delancey Place.
 Ashton, Thomas G., 128 S. 17th.
 Ashton, William E., 2011 Walnut.
 Atkinson, William B. (1862), 1400 Pine.
 Bacon, John, Andalusia, (Bucks Co.)
 Baer, Benjamin F. (1883), 2010 Chestnut.
 Baker, A. George, 404 Susquehanna Ave.
 Baker, George F. (1891), 1818 Spruce.
 Baker, Washington H. (1879), 1610 Summer.
 Baldwin, Kate W. (1898), 320 S. 11th.
 Baldy, John M. (1891), 1722 Chestnut.
 Balliet, Tilghman M., 3700 Powelton Ave.
 Banes, S. Thompson (1890), 845 N. Broad.
 Bareus, Adolph L., 2021 N. 8th.
 Barker, T. Ridgway, 427 S. 16th.
 Bartholow, Paul, 1525 Locust.
 Bartholow, Roberts (1888), 1525 Locust.
 Barton, Amy S., 2045 Chestnut.

- Barton, Isaac, 137 N. 16th.
 Barton, James M. (1878), 1337 Spruce.
 Batt, Wilmer R. (1894), 2449 Columbia Ave.
 Batter, Charles (1892), 929 N. 7th.
 Bauer, Louis G., 5th and Fairmount Ave.
 Baum, Charles (1888), 630 N. Broad.
 Baxter, Hart B., 1422 Christian.
 Baxter, Henry F. (1876), 1422 Christian.
 Beates, Henry, Jr. (1883), 1504 Walnut.
 Bell, James R. F., 2028 N. Broad.
 Bemis, Royal W., 2603 N. 5th.
 Benner, Henry D., 841 S. 3d.
 Bennet, William H., 2105 Spruce.
 Berens, Bernard, 2041 Chestnut.
 Berens, Conrad, 1707 Arch.
 Bernardy, Eugene P., 221 S. 17th.
 Beyea, Harry D., 237 S. 13th.
 Biddle, Alexander W. (1893), Chestnut Hill.
 Birney, Hermann H., 914 W. 44th.
 Bissey, Herman S., 1630 N. 16th.
 Bliss, Arthur A. (1895), 117 S. 20th.
 Blomer, George D., Jr., 1505 S. 6th.
 Bloom, Homer C. (1894), 1433 Walnut.
 Bobb, Wallace G., 2444 N. 6th.
 Bochroch, Max H. (1884), 937 N. 8th.
 Bodamer, George A., 1507 Girard.
 Boenning, Henry C., 538 N. 6th.
 Boger, John A., 2213 N. Broad.
 Bolton, Joseph P., 1102 Walnut.
 Bonaffon, Samuel A. (1896), Broad St. Station.
 Boom, Harry H., 1212 Master.
 Bournonville, Augustus C. (1888), 1517 Girard.
 Bourns, John F., 1010 Walnut.
 Bower, Collier L. (1888), 1433 Walnut.
 Bower, John F., 243 N. 20th.
 Bowers, Wilson, 1803 S. 16th.
 Boyd, George M. (1894), 1953 Locust.
 Bradford, T. Hewson (1880), 125 S. 18th.
 Brady, Franklin, 1815 Frankford Ave.
 Bready, Conrad, R., 1921 N. 7th.
 Breed, Rebecca A., 258 S. 16th.
 Brick, J. Coles, 1629 Locust.
 Bricker, Charles E., 2739 Girard.
 Brinkman, Leon, 1915 Vine.
 Brinton, John H. (1886), 1423 Spruce.
 Brinton, Lewis, 802 N. Broad.
 Bromley, John L., 1532 N. 15th.
 Broomall, Anna E., 1229 Walnut.
 Brown, H. MacVeagh, 915 S. 49th.
 Brown, James M., 4021 Spring Garden.
 Brown, Jean Saylor, 1427 Walnut.
 Brous, Henry A., 900 Pine.
 Brubaker, Albert P., 105 N. 34th.
 Brunet, John E., 2038 N. Broad.
 Bryan, Henry N., 144 N. 20th.
 Bryan, J. Roberts, 4200 Chestnut.
 Buchanan, Samuel A. (1898), 430 Snyder Ave.
 Buck, W. Penn. S. E. Cor. LaCrosse & Runne-
 mede Aves., Landsdowne.
 Buckby, Wilson (1875), 1744 Diamond.
 Bunce, Maurice A., 1329 N. 18th.
 Bundy, Elizabeth R., 1902 Chestnut.
 Bunting, Ross R. (1883), 4301 Ridge Ave., Man-
 ayunk.
 Burke, Joseph J. (1894), 2011 Christian.
 Burnett, Charles H. (1883), 127 S. 18th.
 Burns, R. Bruce (1888), 4321 Frankford.
 Burns, William A. (1888), 1326 Spring Garden.
 Burr, Charles W., 1327 Spruce.
 Cadwalader, Charles E. (1882), 240 S. 4th.
 Cahall, William C. (1891), 154 W. Cheltenham.
 Caldwell, Alexander, 1904 Christian.
 Cameron, George A., 5309 Main, Germantown.
 Cantrell, J. Abbott, 315 S. 18th.
 Capp, William M. (1888), 123 N. 11th.
 Carmony, Henry, 366 Green Lane, Roxborough.
 Carpenter, Herbert B., 1523 Locust.
 Carpenter, John T., 1419 Walnut.
 Carrier, Frederick (1888), 40 N. 16th.
 Carroll, William, 617 S. 16th.
 Caskins, Langdon, 4622 Cedar Ave.
 Cassidy, Felix F. (1888), 4279 Paul St., Frank-
 ford.
 Cattell, Henry W. (1894), 3709 Spruce.
 Chambers, George H., 739 N. 17th.
 Chance, Burton K., 118 S. 17th.
 Chase, Robert H., Frankford Insane Asylum.
 Chestnut, John H. W. (1876), 1757 Frankford.
 Christian, Hilary M., 1422 S. Broad.
 Clark, George G., 1839 N. 17th.
 Clark, Leonardo S. (1876), 1505 Girard.
 Clausen, Joseph R., 717 Betz Bldg.
 Claxton, Charles, 5131 Wayne Ave., German-
 town.
 Cleaver, Philip R., 212 S. 15th.
 Clecman, Richard A. (1879), 2135 Spruce.
 Cleveland, Arthur H., 1423 Walnut.
 Cohen, J. Solis (1886), 1431 Walnut.
 Cohen, Sol. Solis (1886), 219 S. 17th.
 Codman, Charles A. E., 3733 Spruce.
 Coles, Stricker, 259 S. 15th.
 Coley, Thomas Luther, 1339 Pine.
 Conner, Denis N. (1884), 1515 Girard.
 Cooke, Dudley T. (1898), 1536 S. Broad.
 Cooke, Edwin S., 1616 Christian.
 Cooper, J. Cardeen, 1016 Lehigh.
 Coplin, William M. L. (1898), 1419 S. Broad.
 Costello, Harry J., 1516 N. 4th.
 Coyle, Robert (1894), 1820 Fairmount.
 Crandall, Thomas V. (1886), 1916 Spring Garden.
 Crawford, J. Kinnier, 1707 Wallace.
 Croasdale, Hannah T. (1891), 1525 Walnut.
 Croskey, John W. (1896), 1831 Chestnut.
 Cruice, Robert B. (1879), 114 N. 18th.
 Currie, Charles A. (1878), 6112 Gremantown
 Ave.
 Curtin, Roland G. (1881), 22 S. 18th.
 Custor, David D. (1894), 137 Green Lane,
 Manayunk.
 Da Costa, John C. (1886), 1633 Arch.
 DaCosta, John C., Jr., 1633 Arch.
 DaCosta, J. Chalmers, 1629 Locust.
 Daland, Judson (1888), 317 S. 18th.
 Darrach, James, 6121 Green, Germantown.
 Davidson, Charles C. (1888), 200 S. 12th.
 Davis, Gwilym G. (1885), 255 S. 16th.
 Davisson, Alexander H., 2024 Pine.
 Dean, H. Johnson, 1610 Cherry.
 Deaver, Harry C. (1892), 1534 N. 15th.
 Deaver, John B. (1883), 1634 Walnut.
 Deaver, Richard W. (1898), 6033 Germantown.
 Dehoney, Howard, 263 S. 9th.
 Dercum, Clara T., 810 N. Broad.
 Dercum, Francis X. (1888), 1719 Walnut.
 Devlin, F. Frank, 1615 N. 10th.
 Dewey, J. Hiland, 1432 Diamond.
 DeYoung, A. Henriques, 1001 N. 6th.
 Dick, John W., 1945 Christian.
 Dixon, Samuel G., 58th & Elmwood.
 Dixon, William C., 4039 Baltimore.
 Donahav, DeWitt S., 720 N. 19th.
 Donnellan, Patrick S. (1894), 1028 Spruce.
 Dorland, William A. N. (1894), 120 S. 17th.
 Dorr, Henry J., Cherry, below 18th.
 Douglas, Malcolm, 1814 Tioga.
 Downes, Andrew J., 1725 Girard.

- Downes, Norton, 215 W. Walnut Lane, Germantown.
- Downs, Thomas A., 409 N. 41st.
- Dripps, John H., 1812 N. 11th.
- Drysdale, Thomas M. (1864), 1307 Locust.
- Duer, Edward L. (1888), 1606 Locust.
- Duhring, Louis A. (1877), 1411 Spruce.
- Dulles, Charles W. (1883), 4101 Walnut.
- Dundore, Adam J., 2041 Master.
- Dundore, Claude A., 2012 Master.
- Dunmire, G. Benson (1874), 1618 Spruce.
- Dwight, Henry E. (1888), 336 S. 15th.
- Dwight, Mark B., 3412 Baring.
- Eaton, Albert M., 2017 N. 13th.
- Eckman, Phil. N., 624 N. 22d.
- Edsall, David L., 334 S. 16th.
- Ekwurzel, William, 4531 Frankford.
- Ellinger, Theophile J. (1894), 737 N. 41st.
- Ely, Thomas C., 2041 Green.
- Erck, Theo A., 338 S. 15th.
- Eshner, Augustus A. (1898), 224 S. 16th.
- Evans, William, 404 N. 41st.
- Faries, Randolph, 2007 Walnut.
- Farr, William W., 5278 Green, Germantown.
- Faught, G. Granville (1884), 851 N. Broad.
- Feldstein, Adolph, 868 N. 6th.
- Fenton, Thomas H. (1880), 1319 Spruce.
- Ferguson, William N. (1894), 116 W. York.
- Fetterold, George, 1317 Girard.
- Fischelis, Philip, 828 N. 5th.
- Fisher, H. P., 5324 Wayne St., Germantown.
- Fischer, Emil, 729 N. 6th.
- Fisher, Frank (1892), 1834 Arch.
- Fisher, Henry, 2607 E. Norris.
- Fisher, John M. (1893), 1527 Wallace.
- Fisher, John V., 6023 Lombard.
- Fisher, Mary, 1834 Arch.
- Fleisher, Rebecca, 621 N. 16th.
- Fleming, Thomas J., 2427 Fairmount.
- Flick, Lawrence F. (1885), 736 Pine.
- Forbes, William S. (1881), 901 Pine.
- Formad, Marie K., 1008 N. 6th.
- Fox, Charles W. (1884), 1822 Locust.
- Fox, L. Webster (1885), 1304 Walnut.
- Frankish, John K., 237 S. 44th.
- Franklin, Clarence P., 1633 Fairmount Ave.
- Franklin, Marcus, 17th and Oxford.
- Franklin, Melvin M., 1518 N. Broad.
- Frazier, Charles H., 133 S. 18th.
- Freeman, Walter J., 1720 Locust.
- French, Morris S. (1880), 1437 Spruce.
- Freund, Henry H. (1888), 1310 S. 5th.
- Fricke, Albert (1862), 235 N. 6th.
- Friebis, George (1888), 1006 Chestnut.
- Frowert, Charles G., 239 N. 12th.
- Fullerton, Anna M. (1893), 123 S. 16th.
- Fussel, M. Howard (1888), 189 Green Lane, Manayunk.
- Gans, Emanuel S., 711 Franklin.
- Gans, S. Leon, 1618 N. 15th.
- Garitee, Clarence J., 1117 Spruce.
- Gartman, Leo N., 525 Pine.
- Gerhard, Samuel P., 639 N. 16th.
- Getchell, Francis H., 1432 Spruce.
- Gibb, Joseph S. (1886), 1804 Chestnut.
- Gibbon, John H., 324 S. 10th.
- Gillespie, James B., 2038 S. 13th.
- Girvin, Robert M. (1880), 3012 Walnut.
- Githens, William H. (1884), 1512 Pine.
- Gittleson, Samuel J., 1636 Walnut.
- Gittings, J. B. Howard (1884), 3718 Chestnut.
- Gleason, E. Baldwin, 41 S. 19th.
- Gloninger, Elwood S., 1843 N. 17th.
- Goodell, W. Constantine (1894), 2030 Locust.
- Goodwin, A. Helena, 3926 Chestnut.
- Gould, George M. (1894), 119 S. 17th.
- Graham, Edwin E. (1893), 1713 Spruce.
- Graham, John, 326 S. 15th.
- Grayson, Charles P., 251 S. 16th.
- Greene, William H., 27 S. 5th.
- Grenwald, Daniel F., 2417 Master.
- Grier, Matthew J., 1531 Spruce.
- Griffith, J. P. Crozer (1888), 123 S. 18th.
- Groff, Charles A. (1884), 215 N. 13th.
- Gross, William D. (1884), 701 N. 40th.
- Grove, John H. (1884), 1504 Arch.
- Haehnlen, W. Frank, 1616 Walnut.
- Haden, Henry C., 346 S. 15th.
- Hale, George, Jr. (1888), 4428 Paul St., Frankford.
- Hall, Annie Bartram, 1418 N. 18th.
- Hall, L. Brewer (1879), 161 N. 15th.
- Hamill, Samuel M., 1822 Spruce.
- Hammond, Frank C., 1420 Tioga.
- Hammond, Levi J. (1898), 712 S. 10th.
- Hammond, Wilber C., 669 N. 13th.
- Hand, Alfred, Jr., 211 S. 17th.
- Hansell, Howard F. (1884), 254 S. 16th.
- Hare, Hobart A. (1892), 222 S. 15th.
- Harlan, George C. (1888), 1515 Walnut.
- Harland, William G. B., 5200 Germantown Ave.
- Harris, Henry F., Jefferson Hospital.
- Harte, Richard H., 1503 Spruce.
- Hartzell, Milton B. (1890), 3644 Chestnut.
- Hatchette, Frances, 1010 Clinton.
- Hawkes, Edwin G., 1936 N. 22d.
- Hawley, Benjamin F., 417 N. 33d.
- Hay, Charles M., 4106 Girard Ave.
- Hazel, Franklin B. (1883), 841 N. Broad.
- Head, Joseph, 1415 Walnut.
- Healy, John J., 409 S. 22d.
- Hearn, Charles S., 1632 Chestnut.
- Hearn, W. Jos. (1880), 1120 Walnut.
- Heisler, John C., 3705 Powelton.
- Hellyer, Edwin E. (1862), 2339 E. Susquehanna.
- Henry, Fred P. (1879), 1635 Locust.
- Henszey, Samuel C. (1894), 3320 Hamilton.
- Herbert, J. Frederick, 1313 Arch.
- Hertz, Silas G., 1113 Chestnut.
- Hess, Robert J. 610 Fairmount.
- Hewson, Addinell (1888), 1508 Pine.
- Hickey, Stefano J., 1638 N. 15th.
- Hickman, Napoleon (1879), 324 S. 16th.
- Hickman, W. Atlee, 4725 Baltimore Ave.
- Higbee, William S., 544 Tasker.
- Hill, Horace G., 3416 Baring.
- Hinkle, Albert G. B. (1865), 1300 Spring Garden.
- Hinkle, William M. (1895), 1300 Spring Garden.
- Hinsdale, Guy, 3943 Chestnut.
- Hirsh, Abram B. (1884), 1730 Girard.
- Hirst, Barton C. (1888), 1821 Spruce.
- Hoban, Charles C., 1546 S. 15th.
- Hobensack, J. Rex, 1712 N. 19th.
- Hoch, William R. (1884), 1338 Walnut.
- Holder, C.H., 116 S. 21st.
- Holland, James W. (1887), 2006 Chestnut.
- Hollopeter, William C. (1883), 1428 N. Broad.
- Holmes, Edmund W. (1886), 1930 Chestnut.
- Holt, Jacob F. (1876), 1935 Poplar.
- Hopkins, William B. (1888), 1904 S. Rittenhouse Square.
- Hopkinson, Oliver, 1606 S. Broad.
- Horner, Caleb W. (1879), 1636 Walnut.
- Horwitz, Orville (1888), 1721 Walnut.
- Houghton, Charles W., 1528 N. 7th.
- Howard, E. Clarence, 508 S. 10th.

- Hughes, Donnel (1884), 4005 Chestnut.
 Hughes, George M., 241 N. 18th.
 Hughes, William E. (1888), 3726 Baring.
 Hulshizer, Allen H. (1885), 1529 N. 15th.
 Hulshizer, Greene R., 225 Brown.
 Irwin, James A., 634 Snyder Ave.
 Jacob, Albert N., 1617 Wallace.
 Janney, William S. (1881), 1535 N. Broad.
 Johnson, William N., 6480 Germantown Ave.
 Jones, Charles J., 1014 N. 6th.
 Jones, Eleanor C., 641 N. 8th.
 Judson Charles F., 2010 Delancy.
 Jump, Henry D., 1251 S. 47th.
 Jurist, Louis (1888), 916 N. Broad.
 Kemerly, E. Forest, 1130 Spruce.
 Karpless, Maurice J., 38 W. Cheltenham Ave., Germantown.
 Keely, Robert N. (1893), 1823 Vine.
 Keen, William W. (1883), 1729 Chestnut.
 Keiser, Elmer E. (1894), 3710 Longshore, Tacony.
 Keller, Albert P., 136 Race.
 Kelly, Aloysius O. J. (1896), 1911 Pine.
 Kelly, Francis J., 1341 S. 6th.
 Kelly, Joseph V. (1883), 4257 Main, Manayunk.
 Kelsey, Ernest W., 1104 Walnut.
 Kempton, Augustus F. (1888), 2118 Pine.
 Ketcham, S. Rush, 1708 Green.
 Kevin, Robert O., 1315 S. 15th.
 Kilduffe, Robert, 767 S. 12th.
 King, William H., 412 S. 15th.
 Kinne, Howard S., 1408 N. 13th.
 Kirby, Elwood (1897), 1202 Spruce.
 Kirkbride, M. Frank, 2212 Green.
 Kirkbride, Thomas Story, 1406 Spruce.
 Kirkpatrick, Andrew B. (1892), 1745 N. 15th.
 Klapp, Wilbur P., 1716 Spruce.
 Klein, Alexander, 513 Pine.
 Klemm, Adam, 504 N. 4th.
 Kline, William O. Jr., 1211 Germantown Ave.
 Kneass, Samuel S., Dormitories Univ. of Penna.
 Koch, Isidore M., 200 S. 12th.
 Koerper, Joseph F., 503 Marshall.
 Kollock, Katharine (1894), 1926 Spring Garden.
 Krusen, Wilmer, 158 N. 20th.
 Kyle, D. Braden (1894), 1517 Walnut.
 Kynett, Harold H., 1728 Spring Garden.
 Ladd, Horace (1883), 1225 Arch.
 Lamparter, Eugene, 1440 S. Broad.
 Lancaster, Thomas (1888), 1303 N. Broad.
 Lane, Dudley W., 2237 N. 29th.
 Langrehr, Hiram, 2226 N. Broad.
 Laplace, Ernest (1892), 1828 Locust.
 Latta, Samuel W. (1892), 3626 Baring.
 Lautenbach, Louis J. (1888), 1723 Walnut.
 Leach, Wilmon W., 2118 Spruce.
 Leaman, Henry (1876), 832 N. Broad.
 Leaman, Rush, 1033 Vine.
 Leamy, LaBarre Jayne, S. E. Cor. 33 and Spring Garden.
 LeConte, Robert G., 346 S. 16th.
 Lee, Benjamin (1867), 1532 Pine.
 Lee, Bernard R. (1891), 2237 Spring Garden.
 Leffman, Henry (1881), 715 Walnut.
 Leonard, Charles Lester, 1930 Chestnut.
 Leopold, Isaac, 1518 Franklin.
 Lewis, Bertha, 1831 Chestnut.
 Lewis, Morris J., 1316 Locust.
 Litch, Wilbur F., 1517 Walnut.
 Lloyd, J. Hendrie, 3910 Walnut.
 Lockery, Sarah H., 1520 Vine.
 Loder, Percival E. (1888), 517 S. 8th.
 Loeb, Ludwig, 1337 N. 7th.
 Loeling, Gerhard, 1648 Franklin.
 Longaker, Daniel E. (1890), 652 N. 8th.
 Longenecker, Christian B., 3501 Hamilton.
 Longenecker, Jerome, 1409 Spring Garden.
 Lonnstreich, Morris (1888), 1416 Spruce.
 Lopez, Joseph H. (1888), 126 N. 17th.
 Lott, William C., 4001 Chestnut.
 Love, Louis F. (1885), 1762 Frankford.
 McAlarney, William M., 1434 Poplar.
 McAllister, Anna M., 4306 Market.
 McCamy, Robert H., 1932 East Cumberland.
 McClellan, Cochran (1877), 316 S. 11th.
 McClellan, George, 1352 Spruce.
 McCollin, S. Mason (1888), 1823 Arch.
 McCreight, Robert M., 1340 E. Montgomery.
 McDowell, N. S., 1810 N. 16th.
 McDowell, Samuel B. (1884), 925 Broad.
 McFarland, Joseph, 421 W. Price, Germantown.
 McKee, James H., 1519 Poplar.
 McKelway, George I., 1612 Locust.
 McLean, Hugh D., 1331 Pine.
 McLean, John D., 1331 Pine.
 MacBride, Isaac, 1761 Frankford Ave.
 Maier, Frederick H., 2242 N. Broad.
 Makuen, G. Hudson (1896), 1419 Walnut.
 Mann, James P. (1898), 603 N. 12th.
 Marshall, Clara, 1712 Locust.
 Marshall, George M., 1423 Walnut.
 Martin, Edward (1888), 415 S. 15th.
 Martin, Howard B., 1724 Green.
 Martin, Joseph, 2009 Columbia.
 Masland, Harvey C., 1614 W. Susquehanna Ave.
 Massey, G. Betton (1886), 1636 Walnut.
 Matthews, Franklin 1720 N. 22d.
 Mays, Thomas J. (1877), 1829 Spruce.
 Meeser, George F. (1894), 1425 S. Broad.
 Meigs, Arthur V. (1888), 1322 Walnut.
 Metzler, Gottfried, 749 Franklin.
 Miller, D. J., Milton, 345 S. 18th.
 Miller, George B., 634 Diamond.
 Miller, John S., 1917 Girard.
 Miller, Morris B., 334 S. 15th.
 Milliken, Fred H., 3614 Walnut.
 Milliken, George G., 1214 Walnut.
 Mills, Charles K. (1879), 1909 Chestnut.
 Mills, Harry Brooker, 2632 N. 17th.
 Mitchell, John K., 256 S. 15th.
 Mitchell, S. Weir (1884), 1524 Walnut.
 Mitcheson, Robert S. J., 1522 N. 15th.
 Modell, Daniel A., 242 Fairmount Ave.
 Montgomery, Edward E. (1881), 1715 Walnut.
 Moore, Cyrus C., 2349 E. Cumberland.
 Moore, John D., 1505 N. 15th.
 Moore, Henry D., 1528 Tasker.
 Moorhead, William W., 1523 Pine.
 Morehouse, George R., 2033 Walnut.
 Morris, Caspar, 240 S. 21st.
 Morris, Elliston J. (1892), 128 S. 18th.
 Morris, Henry (1888), 313 S. 16th.
 Morris, J. Cheston (1870), 1514 Spruce.
 Morrison, William H. (1888), Main, Holmesburg.
 Morton, George D., 2048 Locust.
 Morton, Thomas S. K. (1888), 1506 Locust.
 Moss, William, Main & Chestnut, Chestnut Hill.
 Moulton, Albert K., Pa. Hospital for Insane.
 Moylan, John J., 228 Price St., Germantown.
 Moylan, Peter F., 1005 N. 6th.
 Muehleck, George A., 1320 S. 5th.
 Muller, Auguste F., 4753 Green, Germantown.
 Minich, Andrew K. (1881), 145 Susquehanna Ave.
 Musser, John H. (1883), 1927 Chestnut.
 Musson, Emma E., 258 S. 16th.
 Myers, Tallyrand D., 1703 Locust.
 Nash, Joseph D. (1876), 1316 N. 11th.

- Nassau, Charles F., 1515 Wallace.
 Neff, Joseph S. (1884), 2390 Locust.
 Neilson, Thomas R. (1884), 122 S. 17th.
 Neuber, Samuel T., 1855 Frankford Ave.
 Newbold, Henry A., 3907 Walnut.
 Newcomet, William S., 3229 Powelton Ave.
 Nightingale, Henry B., 247 N. 6th.
 Noble, Charles P. (1892), 1037 N. Broad.
 Noble, William H., 2101 N. 13th.
 Nock, Thomas O., 2507 Brown.
 Nolan, Edward J. (1879), 825 N. 20th.
 Norris, Richard C., 500 N. 20th.
 Numbers, William A., 838 N. 24th.
 O'Daniel, A. Allison, 1319 Walnut.
 O'Farrell, Gerald D. (1883), 2317 E. Cumberland.
 O'Hara, Michael (1874), 31 S. 16th.
 O'Hara, Michael, Jr. (1894), 125 N. 17th.
 Oliver, Charles A. (1883), 1507 Locust.
 O'Malley, Joseph M., 2217 S. Broad.
 Ott, Lambert, 1531 N. 17th.
 Owen, John J., 411 Pine.
 Packard, Francis R., 125 S. 18th.
 Packard, Frederick A., 110 S. 18th.
 Packard, John H. (1877), Hotel Stenton.
 Paist, Henry C. (1888), 526 N. 7th.
 Pancoast, J. William (1895), 1611 N. 13th.
 Pardee, Howard A., 3410 Baring.
 Parish, William H. (1879), 1435 Spruce.
 Parke, William E., 1739 N. 17th.
 Patterson, F.W., 214 S. 15th.
 Pearce, F. Savary (1896), 1407 Locust.
 Pearson, John S., 1507 Christian.
 Peck, Elizabeth L., 819 N. 40th.
 Pennebaker, Benjamin, 4862 Tacony.
 Pennock, Walter J., 1407 N. 17th.
 Penrose, Charles B. (1888), 1331 Spruce.
 Perkins, Francis M. (1883), 1428 Pine.
 Perrine, Edmund K., 1809 Chestnut.
 Peter, Luther C., 2136 Oxford.
 Phillips, John L., 2215 Tioga.
 Phillips, Richard J. (1892), 123 S. 39th.
 Piersol, George A. (1884), S. E. Cor. 48th & Chester.
 Pilkington, Horatio, 4238 Paul, Frankford.
 Pitfield, Robert L., 5450 Main, Germantown.
 Porter, William G. (1878), 1118 Spruce.
 Posey, William G., 1831 Chestnut.
 Potsdamer, Joseph B. (1884), 1333 Franklin.
 Pottberg, Charles, 2338 N. Broad.
 Potts, Barton H., 1032 Spruce.
 Potts, Charles S., 1712 Wallace.
 Price, Joseph (1888), 241 N. 18th.
 Price, Mordecai (1888), 1335 Spring Garden.
 Purnell, C. N., 132 S. 18th.
 Pyle, Walter L., 831 Chestnut.
 Radcliffe, McCluney (1884), 711 N. 16th.
 Raineer, A. Rusling, 2024 Diamond.
 Ramsey, Alexander, 2847 N. Front.
 Randall, B. Alexander (1885), 1604 Walnut.
 Ransley, Alexander W., 1222 S. 10th.
 Reber, Wendell, 1208 Spruce.
 Reckefuss, Charles H., Jr., 506 N. 6th.
 Reed, Boardman, 1928 Chestnut.
 Reeves, J. Howard, 1507 Walnut.
 Regar, Horace K. (1891), 1509 N. 13th.
 Rehfuess, Emil G., 1528 S. Broad.
 Rehm, Victor G. R. J., 2008 Master.
 Reynolds, Anna M., 1534 Dauphin.
 Reynolds, John P., 705 Spruce.
 Rhein, John H. W., 1320 Spruce.
 Rhoads, Edward G. (1894), 131 W. Chelton Ave. Germantown.
 Rhoads, J. Neely, 1612 S. 17th.
 Rhoads, Thomas Leidy, 1703 Walnut.
 Richardson, Ida E., 250 S. 16th.
 Riesman, David, 326 S. 16th.
 Ring, G. Oram, 1442 N. 13th.
 Risley, Samuel D. (1878), 1722 Walnut.
 Roberts, John B. (1878), 1627 Walnut.
 Roberts, Walter, 26 S. 18th.
 Robertson, William E., 912 N. 4th.
 Robinson, William D. (1896), 2012 Mt. Vernon.
 Rocap, William A., Olney.
 Roderer, John F., 2446 N. 6th.
 Rosenthal, Edwin (1888), 517 Pine.
 Ross, George G., 637 N. 16th.
 Roussel, Albert E., 2112 Pine.
 Rugb, J. Torrance, 1431 Walnut.
 Ruoff, William, 1301 N. 13th.
 Sajous, Charles E. (1886), 2043 Walnut.
 Salade, Lewis A., 4000 Spruce.
 Salingier, Julius L. (1894), 1510 N. 8th.
 Santee, Eugene I. (1874), 532 N. 6th.
 Schaffer, Charles, 1309 Arch.
 Schemberg, Jay F., 831 N. Broad.
 Scull, William B., 3036 Richmond.
 Schneideman, Theodore B. (1891), 112 S. 18th.
 Schoales, Charles B., 1428 N. 11th.
 Schweintitz, George E. De. (1894), 1401 Locust.
 Schwenk, Peter N. K. (1884), 810 N. 7th.
 Scott, J. Allison, 128 S. 18th.
 Seabrook, Alice M., 2301 S. Broad.
 Seiss, Ralph W. (1888), 213 S. 17th.
 Seltzer, Charles M. (1883), N. W. Cor. Spring Garden & 19th.
 Seltzer, C. Jay (1884), 1410 Walnut.
 Service, Charles A. (1884), City Line & Belmont Ave., Bala.
 Sharp, Leedom, 1335 Pine.
 Sharpless, Anna P., 3926 Chestnut.
 Shea, William Kerr, 1705 N. 18th.
 Shellenberger, Joseph R. (1896), 5505 Main. Germantown.
 Shober, John B., 112 S. 17th.
 Shoemaker, George E. (1896), 3727 Chestnut.
 Shoemaker, John V. (1878), 1519 Walnut.
 Shoemaker, William T., 2031 Chestnut.
 Shumway, Ed. A., N. W. Cor. 18th and Sansom.
 Shute, Harry A., 2145 Howard.
 Simes, J. Henry C. (1884), 2033 Chestnut.
 Simsohn, Joseph S., 909 Franklin.
 Sinexon, Justus (1883), 201 N. 20th.
 Sinkler, Wharton (1888), 1606 Walnut.
 Skidelsky, Rachel S., 1653 N. 7th.
 Skillern, Penn G. (1876), 241 S. 13th.
 Skillern, Samuel R., 3509 Baring.
 Skilling, Michael J. (1886), 1635 Christian.
 Slaughter, Charles H., 10th & Wharton.
 Slocum, Harris A. (1884), 1427 Walnut.
 Small, William B., 232 Green.
 Smith, Alexis D., 6019 Germantown Ave.
 Smith, S. Macuen (1891), 1502 Walnut.
 Smock, Ledru P., 3330 Chestnut.
 Snively, I. Newton, 2501 Oxford.
 Somers, Lewis S., 3554 N. Broad.
 Sparks, Geo. W., 1022 Spruce.
 Spellissy, Joseph M., 108 S. 18th.
 Spencer, George W., 1838 Christian.
 Spiller, William G., 4409 Pine.
 Stahl, B. Franklin (1894), 1502 Arch.
 Staller, Max, 631 Catharine.
 Steinbach, Lewis W. (1884), 1309 N. Broad.
 Stelwagon, Henry W. (1884), 223 S. 17th.
 Stengel, Alfred, 332 S. 17th.
 Stern, Max J., 711 Franklin.
 Stevens, Arthur A., 320 S. 16th.

Stewart, Alonzo H., 252 N. 12th.
 Stewart, David D. (1888), 108 S. 17th.
 Stewart, William S. (1877), 1801 Arch.
 Stille, Alfred (1848), 3900 Spruce.
 Stone, Edward R. (1888), 1701 Master.
 Stone, James F. (1892), 1806 Green.
 Stout, Emanuel J., 2422 N. Broad.
 Stout, George C. (1891), 34 S. 18th.
 Stout, Oliver, 5th St. & Glenwood Ave.
 Strawbridge, George (1876), 202 S. 15th.
 Strecker, Henry A., 333 S. 12th.
 Strittmatter, Isidor P., 999 N. 6th.
 Stroebel, John, 948 N. 5th.
 Strouse, Fred M., 2220 N. Broad.
 Swan, John M., 807 N. 41st.
 Sweet, William M. (1898), 1131 Spruce.
 Tait, Thomas W., 318 S. 11th.
 Talley, Frank W., 1346 Spruce.
 Tappan, Lucy N., 1229 Walnut.
 Taylor, Alonzo E., 332 S. 16th.
 Taylor, Charles F. (1895), 1520 Chestnut.
 Taylor, John J., 3709 Brown.
 Taylor, J. Madison (1888), 1504 Pine.
 Taylor, William J., 116 S. 18th.
 Taylor, William L., 1340 N. 12th.
 Teller, William H., 1934 Green.
 Thomas, Charles H. (1879), 1633 Locust.
 Thomas, Frank W. (1894), 6 Mt. Airy Ave., Germantown.
 Thomas, George P., 2123 N. 7th.
 Thomson, Arch G., 1426 Walnut.
 Thomson, William (1884), 1426 Walnut.
 Thornington, James, 120 S. 18th.
 Thorton, E. Quinn, 922 Spruce.
 Tobolt, Albert L. A., 822 N. Broad.
 Trautman, Berthold (1884), 242 Franklin.
 Tucker, Henry, 19 S. 21st.
 Tull, M. Graham, 4807 Woodland Ave.
 Tunis, Joseph P., 129 S. 18th.
 Turnbull, Charles S. (1879), 1933 Chestnut.
 Turner, John B., 1525 Christian.
 Tyson, James (1875), 1506 Spruce.
 Tyson, T. Mellor, 1506 Spruce.
 Updegrove, Silas, 804 Marshall.
 Vanderslice, Edward S., 127 S. 5th.
 VanGasken, Frances C., 1132 Spruce.
 Van Harlingen, Arthur (1884), 117 S. 18th.
 Vansant, Eugene L. (1892), 1929 Chestnut.
 Veasey, Clarence A. (1898), 116 N. 19th.
 Walk, James W. (1883), 737 Corinthian Ave.
 Walker, Gertrude A., 125 S. 16th.
 Walker, James B. (1884), 1617 Green.
 Wallace, Charles H., 4600 Kingessing Ave.
 Wamsley, James W., 1223 Spruce.
 Ward, E. Tillson, 843 S. 3d.
 Warder, Charles B., 1305 N. Broad.
 Warder, William H., 1212 N. Broad.
 Watson, Arthur W., 126 S. 18th.
 Watson, Edward W. (1884), 131 N. 20th.
 Watson, W. N., 4110 Parkside Ave.
 Webb, William H. (1875), 556 N. 16th.
 Weintraub, Sarah L., 1511 S. 9th.
 Welch, William M. (1870), 821 N. Broad.
 Wells, J. Ralston (1869), 5138 Lancaster Ave.
 Wells, P. Frailey (1895), 4023 Brown.
 Wells, William H., 333 Pine.
 Wendell, W. Guthrie, 4126 Chester Ave.
 Wenner, Ellis Bruce, 3805 Baring.
 West, John W., 1125 Wallace.
 Westcott, Thompson S., 108 N. 19th.
 Wetherill, H. Emerson, 3724 Walnut.
 Wetherill, Henry M., 2208 Locust.
 Wharton, Henry R. (1885), 1925 Spruce.

Wheeler, Edwin B., 1918 N. 8th.
 White, J. William, 1810 S. Rittenhouse Square.
 Whiting, Albert D., 1523 Spruce.
 Wightman, John G., 2030 Wallace.
 Wiley, Eugene (1884), 330 Reed.
 Wiley, Harry E., 330 Reed.
 Williard, DeForest (1883), 1601 Walnut.
 Williams, Charles B., Jenkintown.
 Williams, Henry L., 112 S. 18th.
 Williams, Horace, 1717 Pine.
 Willits, Charles H. (1884), 24 S. 18th.
 Willits, I. Pearson (1890), 6123 Germantown Ave.
 Willits, Mary (1893), 1705 Mt. Vernon.
 Wilson, H. Augustus (1888), 1611 Spruce.
 Wilson, James C. (1883), 1437 Walnut.
 Wilson, Richard, 403 S. 22d.
 Wilson, Samuel M., 1517 Arch.
 Wilson, W. Reynolds, 112 S. 20th.
 Wirgman, Charles (1884), 2021 Pine.
 Wise, George C., 420 S. Broad.
 Witmer, A. Ferree (1898), 332 S. 15th.
 Wolfe, Samuel (1892), 1701 Diamond.
 Wolff, Lawrence (1888), 333 S. 12th.
 Wood, Alfred C., 1501 Walnut.
 Wood, Horatio C. (1876), 1925 Chestnut.
 Woodbury, Frank (1880), 218 S. 16th.
 Woods, D. Flavel (1884), 1501 Spruce.
 Woods, Matthew, 1307 S. Broad.
 Woods, Walter V., 848 N. 41st.
 Wray, William S., 1224 N. 7th.
 Yard, John L. (1888), 327 S. 18th.
 Yarrow, Thomas J. (1872), 1335 N. Broad.
 Yeager, Frank N., 2826 Oxford.
 Young, James K. (1888), 222 S. 16th.
 Zentmayer, William J., 1423 Walnut.
 Ziegler, S. Lewis (1891), 1509 Walnut.
 Ziegler, William H., 3028 Frankford Ave.
 Ziehler, Walter M. L. (1883), 1418 N. 17th.
 Zimmerman, Mason W., 1522 Locust.
 Zuill, William L., 857 N. Broad.

POTTER COUNTY SOCIETY.

(Organized 1898.)

President..... Edelbert U. Eaton, Ulysses.
 V. Presidents... H. D. Hart, Genesee.
 Robert B. Knight, Coudersport.
 Secretary..... Elwin H. Ashcraft, Coudersport.
 Treasurer..... Allen H. Glover, Ulysses.
 Censors..... Edelbert U. Eaton, Ulysses.
 James T. Hurd, Galeton.
 Elmer E. Horn, Austin.
 H. D. Hart, Genesee.
 E. Roy Gustin, Roulette.

Stated meetings second Tuesday in January,
 April, July and October, at Court House, Couders-
 port. Annual meeting in January.

MEMBERS (15)

Ashcraft, Elwin H., Coudersport.
 Bradford, C. L., Austin.
 Church, Nathan W., Ulysses.
 Eaton, Edelbert U., Ulysses.
 Glover, Allen H., Ulysses.
 Gustin, E. Roy, Roulette.
 Hart, H. D., Genesee.
 Horn, Elmer E., Austin.
 Hurd, James T., Galeton.
 Knight, Robert B., Coudersport.
 McGranor, W. J., Port Allegheny, (McKean Co.)
 Pritchard, Mahlon R., Harrison Valley.
 Sine, Samuel W., Galeton.
 Steele, John G., Galeton.
 Tassel, William H., Shingle House.

SCHUYLKILL COUNTY SOCIETY.

(Organized 1848.)

President.....George H. Halberstadt, Pottsville.
 V. President...Will C. J. Smith, St. Clair.
 Secretary.....George W. Farquhar, Pottsville.
 Treasurer.....David Taggart, Frackville.
 Censors.....Phaon H. Hermany, Mahanoy City.
 Christian Lenker, Schuylkill Haven.
 Daniel W. Bland, Pottsville.
 J. Spencer Callen, Shenandoah.
 Frank P. Lytle, Branchdale.

Stated meetings in Pottsville (or elsewhere as may be selected) the first Tuesday in each month.
 Election of officers in January.

MEMBERS (80)

Banks, Charles W. (1888), Middleport.
 Bartho, Benjamin F. (1895), Mt. Carmel (Northumberland Co.)
 Biddle, Jonathan C. (1878), Ashland.
 Binkley, George K., Orwigsburg.
 Birch, Thomas J. (1879), Port Carbon.
 Bland, Daniel W. (1870), Pottsville.
 Bleiler, Charles A. (1891), Frackville.
 Bleiler, Peter O. (1891), Girardville.
 Bowman, Henry C. (1894), Mahanoy City.
 Brady, Sobieski H. (1880), Lost Creek.
 Brendle, George F. (1874), Mahanoy City.
 Bronson, Albert F. (1891), Girardville.
 Bucher, William H., Mt. Carmel, (Northumberland Co.)
 Callen, J. Spencer (1883), Shenandoah.
 Carpenter, James S. (1884), Pottsville.
 Carr, Andrew P. (1877), St. Clair.
 Carr, Charles D. (1892), 261 S. 15th St., Philadelphia.
 Carr, William H. (1877), Lancaster, (Lancaster Co.)
 Chrisman, Robert S. (1875), Pottsville.
 Cleaver, K. R., Friedensburg.
 Coble, Jacob W. (1894), Tamaqua.
 Dechert, Harry W., Mahanoy City.
 Dunn, Paul B., Mahanoy City.
 Evans, Charles W., Tremont.
 Farquhar, George W. (1897), Pottsville.
 Flexer, Lewis A., Tamaqua.
 Forrester, William L. C. (1891), Girardville.
 Gillars, Alexander L. (1892), Pottsville.
 Gleim, George, Cornwall, (Lebanon Co.)
 Gray, J. C., Cressona.
 Gray, Robert B., Port Carbon.
 Guldin, Benjamin C. (1876), Minersville.
 Gwinner, John M., Centralia.
 Halberstadt, A. H. (1866), Pottsville.
 Halberstadt, George H. (1870), Pottsville.
 Hamilton, George M., Shenandoah.
 Hermany, Phaon H. (1874), Mahanoy City.
 Hoffman, J. Louis (1868), Ashland.
 Horan, William F., Mahanoy City.
 Langton, Daniel J. (1893), Shenandoah.
 Lenker, Christian (1880), Schuylkill Haven.
 Lewis, Thomas (1883), Mahanoy City.
 Little, George (1891), Tamaqua.
 Lytle, Frank P., Branchdale.
 Marshall, D. Samuel, Ashland.
 Matten, William H., McKeesburg.
 Muckle, Joseph F., Llewellyn.
 Miller, Charles D. (1888), Pottsville.
 Milliard, Benjamin I. (1898), Mt. Carmel, (Northumberland Co.)

Monaghan, William J., Girardville.
 Monemus, Ralph W. (1884), Mt. Carmel, (Northumberland Co.)
 Moore, George H. (1898), Schuylkill Haven.
 Morris, Joseph P., St. Clair.
 O'Hara, Patrick H., Pottsville.
 Phillips, Edwin F. (1884), Tower City.
 Poliak, B. S. (1897), Pottsville.
 Rentschler, Henry D. (1878), Ringtown.
 Riley, John D., Mahanoy City.
 Robbins, Clifton, Shenandoah.
 Roberts, J. Pierce, Shenandoah.
 Robinhold, Lewis C. (1898), Auburn.
 Roth, Victor T. (1898), Pottsville.
 Samuel, Edmund W. (1883), Mt. Carmel, (Northumberland Co.)
 Samuel, William C., Gilberton.
 Schlasman, Charles, Girardville.
 Schultz, J. William, Tremont.
 Seibert, Albert A., Pottsville.
 Seyfert, Simon J. (1894), Pine Grove.
 Sherman, Austin, B., Mahanoy City.
 Smith, Will C. J. (1879), St. Clair.
 Spalding, Stephen C. (1876), Shenandoah.
 Speer, B. C. Maud Coble (1893), Tamaqua.
 Speer, Oliver K., Tamaqua.
 Stein, William N., Shenandoah.
 Swaving, John G. C. (1884), Pottsville.
 Swaving, J. Henry (1891), Pottsville.
 Swayze, M. Alice (1877), Pottsville.
 Taggart, David (1881), Frackville.
 Weber, Louis (1883), 2840 Columbia Ave., Philadelphia.
 Williams, William T. (1891), Mt. Carmel, (Northumberland Co.)

SNYDER COUNTY SOCIETY.

President.....Frank J. Wagenseller, Selinsgrove.
 V. President...Marand Rothrock, Mt. Pleasant Mills.
 Sec'y & Treas.. John O. Wagner, Beaver Springs.
 Censors.....Domer G. Smith, Freeburg.
 Percival Herman, Kratzerville.
 H. M. Nipple, Selinsgrove.

Stated meetings at Selinsgrove or Beavertown, the first Tuesday in February, April, June, August, October and December. Election of officers in February.

MEMBERS (10)

Boyer, Philip A., Selinsgrove.
 Herman, Percival (1886), Kratzerville.
 Miller, Edwin M. (1896), Beavertown.
 Nipple, H. M., Selinsgrove.
 Rothrock, Marand, Mt. Pleasant Mills.
 Smith, Albert M., Beaver Springs.
 Smith, Domer G. (1898), Freeburg.
 Wagenseller, B. F., Selinsgrove.
 Wagenseller, Frank J., Selinsgrove.
 Wagner, John O., Beaver Springs.

SOMERSET COUNTY SOCIETY.

(Organized Oct. 29, 1889.)

President.....Richard T. Pollard, Garrett.
 V. President...Albert J. Welfley, Confluence.
 Secretary.....H. Clay McKinley, Meyersdale.
 Cor. Sec'y.....David Gildner, Rockwood.
 Treasurer.....Walter S. Mountain, Confluence.
 Stated meetings at place selected on the third Tuesday of January, April, July and October.
 Election of officers in October and assume office at January meeting.

MEMBERS (25)

Beachley, Urias M., Meyersdale.
 Fichtner, B. A., Confluence.
 Gardner, John H., Stoyestown.
 Gardner, W. H., Rockwood.
 Garey, Henry (1892), Berlin.
 Getty, Oliver G., Meyersdale.
 Gildner, David, Rockwood.
 Kimmel, Harry S., Somerset.
 Kuhlman, W. S. (1890), Ursina.
 Lichty, A. M., Elk Lick.
 Lichty, Bruce, Meyersdale.
 McKinley, H. Clay, Meyersdale.
 McMillan, W. T., Elk Lick.
 Masters, George B., Rockwood.
 Meyers, William H., Meyersdale.
 Mitchell, William F., Addison.
 Moore, Harmar D., New Lexington.
 Mountain, Walter S., Confluence.
 Pollard, Richard T., Garrett.
 Rowe, William T., Meyersdale.
 Shaw, W. Potter, Berlin.
 Speicher, Asa F. (1892), Elk Lick.
 Swank, Peter, Davidsville.
 Tannehill, Manoaah, Confluence.
 Welfley, Albert J., Confluence.

SUSQUEHANNA COUNTY SOCIETY.

(Organized Nov. 19, 1838.)

President.....Julius J. Boyle, Susquehanna.
 V. President...Clarrington W. Catterson, Franklin Forks.
 Secretary.....Calvin C. Halsey, Montrose.
 Treasurer.....Edward R. Gardner, Montrose.
 Censors.....Abram E. Snyder, New Milford.
 John G. Wilson, Montrose.
 Charles A. Johnston, Hop Bottom.

Annual meetings at Montrose on first Tuesday of May. Other meetings first Tuesdays of August, October and February at places designated at previous meetings.

MEMBERS (27)

Ainey, Albert J. (1894), Brooklyn.
 Beaumont, William B., West Auburn.
 Birdsall, Samuel (1869), Susquehanna.
 Boyle, Julius J., Susquehanna.
 Brundage, Albert T. (1873), Harford.
 Catterson, Clarrington W., Franklin Forks.
 Chamberlain, Abraham (1885), Brooklyn.
 Dunbar, Harry T. (1894), Harford.
 Fry, Harvey M., Rush.
 Gardner, Edward R. (1896), Montrose.
 Grander, Frederick L., Forest City.
 Halsey, Calvin C. (1862), Montrose.
 Harrison, George M., Auburn Centre.
 Hines, Eben P., Great Bend.
 Johnston, Charles A., Hop Bottom.
 Lathrop, Homer B. (1894), Springville.
 Miller, Morgan L., Lanesboro.
 Newton, Charles R., Nicholson, (Wyoming Co.)
 Peck, Dever J. (1893), Susquehanna.
 Pickard, Henry S. (1896), Springville.
 Richardson, William L. (1884), Montrose.
 Skelly, Lawrence P., Susquehanna.
 Smith, Frank I., Hallstead.
 Snyder, Abram E. (1896), New Milford.
 Taylor, Arthur J., Hop Bottom.
 Vanness, Clarence N., Hallstead.
 Wilson, John G., Montrose.

TIOGA COUNTY SOCIETY.

(Organized 1801. Reorganized January 24, 1896.)

President.....Henry E. Caldwell, Morris Run.
 V. President...Edwin E. Clark, Osceola.
 Secretary.....Arland L. Darling, Lawrenceville.
 Treasurer.....Clarence W. Webb, Wellsboro.
 Censors.....Lewis J. Darling, Lawrenceville.
 Robert B. Smith, Tioga.
 Eugene S. Robbins, Covington.

Stated meetings in Lawrenceville the third Friday in June, September, December and March. Election of officers in June.

MEMBERS (27)

Bacon, Morgan L., Wellsboro.
 Beers, James L., Crooked Creek.
 Bosworth, C. H., Osceola.
 Bottom, Arthur L., Westfield.
 Caldwell, Henry E., Morris Run.
 Clark, Edwin E., Osceola.
 Cloos, Luther N., Keeneyville.
 Crandall, Geo. D., Blossburg.
 Darling, Arland L., Lawrenceville.
 Darling, Lewis J., Lawrenceville.
 Gaskill, Samuel A., Covington.
 Gentry, John M., Stony Forks.
 Hakes, Solomon P., Tioga.
 Heiser, Wm., Fall Brook.
 Humphrey, Wilmot G., Elkland.
 Kunkle, Asaph T., Westfield.
 Logan, Chas. S., Arnot.
 Loop, A. M., Nelson.
 Nye, Orrin S., Rutland.
 Robbins, Eugene S., Covington.
 Smith, Robert B., Tioga.
 Stevens, Wm. B., Nelson.
 Vedder, Wentworth D., Mansfield.
 Waters, David C., Arnot.
 Webb, Clarence W., Wellsboro.
 White, Inman H., Little Marsh.
 Williams, Charles, Wellsboro.

VENANGO COUNTY SOCIETY.

(Organized May 8, 1867.)

President.....Charles H. Cookson, Oil City.
 V. President...Clinton S. Kerr, Emlenton.
 Secretary.....Edwin W. Moore, Franklin.
 Treasurer.....Clarence W. Coulter, Oil City.
 Censors.....Francis F. Davis, Oil City.
 William Addison Nicholson, Franklin.
 John A. Ritchey, Oil City.

Stated meetings on the third Tuesday of January, March, May, July, September and November; the regular meetings at Oil City and Franklin. Two meetings each year are "outings," and are held at Tionesta, Emlenton, Cooperstown or Titusville. Election of officers in January.

MEMBERS (26)

Barr, George W. (1867), Titusville, (Crawford Co.)
 Boverd, Forest J., Tionesta, (Forest Co.)
 Cookson, Charles H., Oil City.
 Coope, Adelbert F. (1882), Oil City.
 Coulter, Clarence W. (1890), Oil City.
 Crawford, John K., Cooperstown.
 Davis, Francis F. (1870), Oil City.
 Davis, John F. (1897), Oil City.
 Dunkle, Cyrus G., Oil City.
 Forester, William, Oil City.
 Gilmore, William G., Clintonville.

President..... Jacob Sell, Greensburg.
V. Presidents. I. H. Boyd, Derry Station.
 Alexander M. McLain, Irwin.
Secretary..... Edward B. Marsh, Greensburg.
Treasurer..... James B. Wakefield, Grapeville.
Censors..... Frank L. Portzer, Greensburg.
 Albert W. Strickler, Scottsdale.
 Edward B. Marsh, Greensburg.

Stated meetings held quarterly as follows: The February and November meetings in Greensburg, at 10 o'clock A. M. on the first Tuesday of the Court of Quarter Sessions held during the said months; and the May and August meetings at such places as the Society may appoint, on the first Tuesday of the said months, except when held in Greensburg, in which case they shall be held, like the first-mentioned, on the first Tuesday of the Court of Quarter Sessions. Election of officers in November.

MEMBERS (58)

Ambrose, Jacob T. (1897), Ligonier.
 Bair, John W., New Stanton.
 Bishop, William T., Derry Station.
 Blackburn, Ida E., Greensburg.
 Boyd, I. H., Derry Station.
 Brown, J. Logan, Pleasant Unity.
 Cole, Thomas P. (1897), Greensburg.
 Cook, Joseph L., New Alexandria.
 Diltz, H. C., Derry Station.
 Fetter, William H., Scottdale.
 Gilbert, L. T., Alverton.
 Goodman, Charlotte E. (1894), Mt. Pleasant.
 Hammer, Robert B. (1894), Greensburg.
 Heintzelman, B. S., Penn Station.
 Hess, Oliver J., Scottdale.
 Horner, Myers W., Mt. Pleasant.
 Houston, William T., Greensburg.
 Hughes, John W. (1890), Latrobe.
 Hutton, D. S., Smithton.
 Kamerer, Joseph W. B. (1876), Greensburg.
 Kimmel, Harry T., Derry Station.
 Kline, William J. K. (1876), Greensburg.
 Klingensmith, T. A., Jeanette.
 Kneedler, George C., Ruffsdales.
 Leyda, Isaac N., Manor Station.
 Long, J. S., Circleville.
 McAdoo, Elmer E., Ligonier.
 McClelland, Robert P., Irwin.
 McConaughy, David W. (1867), Latrobe.
 McCormick, John C. (1897), Greensburg.
 McLain, Alexander M., Irwin.
 Marsh, Edward B. (1897), Greensburg.
 Marsh, Florence L. (1887), Mt. Pleasant.
 Marsh, William A., Mt. Pleasant.
 Meanor, William C. (1897), Greensburg.
 Miller, Wesley W., Jeanette.
 Montgomery, Mary L., Mt. Pleasant.
 Moore, Robert H. (1898), Trenton, N. J.
 Painter, T. P., United.
 Patterson, John, Herminie.
 Plottner, William S., Turtle Creek, (Allegheny Co.)
 Portzer, Frank L. (1896), Greensburg.
 Ringer, J. Hiram, Jeanette.
 Robinson, John Q. (1884), West Newton.
 Robinson, John Q., Jr. (1897), West Newton.
 Sell, Jacob, Greensburg.
 Shirey, Charles A., Manor.
 Sloan, Charles M., Madison.
 Snyder, Charles E., (1897), Greensburg.
 Sowash, Millard F., Irwin.
 Strawn, Enos K. (1897), Madison.
 Strickler, Albert W. (1884), Scottdale.
 Taylor, Charles, Irwin.
 Thomas, Lauren C. (1895), Latrobe.
 Van Dyke, George R., West Newton.
 Van Kirk, Bennett H., West Newton.
 Wakefield, James B. (1892), Grapeville.
 Wynn, Charles A., Derry Station.

YORK COUNTY SOCIETY.

(Organized May 11, 1873.)

President..... Samuel K. Pfaltzgraff, York.
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Stated meetings in York, in the Colonial Hotel Parlor, the first Thursday in each month. Election of officers in January.

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*Deceased.

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Address.

ADDRESS OF THE RETIRING PRESIDENT OF BRADFORD COUNTY MEDICAL SOCIETY.

UNUNITED FRACTURES.

By C. H. OTT, M. D., OF SAYRE.

In deciding upon a subject for the President's annual address, it occurred to me that a paper on ununited fractures might not be without interest. There is no class of injuries which the practitioner of medicine desires less to treat, I think, than fractures. There are so many elements of omission and commission which can enter during treatment, that I always approach a case with the feeling that I would have been perfectly satisfied had the patient gone elsewhere. While I do not advise or follow the suggestion of some surgeons of cutting

down upon a bone in simple fracture, I do not at all object to treat compound fractures. Here the fragments can be seen, manipulated, wired or held in position by any mechanical means deemed advisable. Under proper aseptic and antiseptic treatment, combined with thorough drainage, there should, ordinarily, be no trouble.

In looking over the literature at my command, and taking my own experience during the past two and a half years in the Robert Packer Hospital into consideration, I do not know whether I am to be congratulated or not. It has been my fortune to have had under treatment a number of fractures which failed to unite in what is considered a reasonable time. Hamilton, in his 1880 edition on "Fractures and Dislocations," says, in beginning the chapter on delayed union, fibrous union and non-union of broken bone, "Most surgical writers concur in the statement that non-union of broken bones is an uncommon event," and

in the article gives some statistics which I will quote:

Walker, of Oxford, England, in 1,000 cases of fracture of various bones, had only 6 or 8 of non-union.

In the Middlesex Hospital, in nearly 4,000 cases there were only 5 or 6 cases of false joint.

The Massachusetts General Hospital, in nineteen years had 367 cases of fracture, with only one example of false joint.

In 946 cases in the Pennsylvania Hospital, between 1830 and 1840, there was no instance of false union.

Hamilton thinks that the proportion of non-union is about 1 to 500.

Dennis, some years ago, published the records of 1,000 cases of compound fractures, not one of which did not finally unite.

Gross says: "The occurrence of non-union, however, of fractures generally, is probably much less frequent than is usually supposed."

The causes for non-union may be divided into three, namely, constitutional, general and local.

Under constitutional causes may be enumerated disordered condition of the patient's system, such as fevers, syphilis, scurvy, malignant affections, or other diseases of the bone. It is thought that pregnancy, as a cause of non-union, is much exaggerated.

General causes may be stated as being want of skill on the part of the surgeon and patients' misconduct.

The local causes favoring non-union are more numerous and probably more important. They are: The directions of the line of fracture, an oblique fracture being less apt to unite than a transverse or impacted, separation of the fragments, foreign bodies between the ends of the bone or torn muscle. There may be inadequate nerve-supply, due to coincident injury of the spine, and thus preventing union of the femur, the direction of the nutrient artery relative to the fracture and the communication of the bone and

laceration of the soft parts. Gross' vast experience caused him to believe that the most common cause of all was motion and imperfect apposition.

Old age, as is so commonly thought, is no barrier to union. Dr. W. W. Dale reports the case of an old lady of 100 years, in which a fracture of the humerus united promptly, and Dr. J. K. Hollaway, of Ohio, had union occur in fracture of the femur in an old lady of 93.

The proportion of ununited to united fractures in compound and simple fractures is about 1 to 10. Should bony union not take place, the fragments are generally united by fibrous, ligamentous or fibro-cartilaginous union. Slow or delayed union is not uncommon, and Hamilton gives it as his opinion that, as a rule, a fracture should not be said to be ununited till after the fifth month. At times false joints form, which have a more or less distinct synovial membrane; a case of this kind was in the dispensary some weeks ago, in which there was a perfect false joint at the lower extremity of the left humerus.

The bones most likely to be affected by non-union are the humerus and femur. Morris' statistics show that there were 48 of the humerus, 48 of the femur, 33 of the tibia, 19 of the forearm and 2 of the jaw. The direction of the nutrient artery plays a most important part in the causation of this difficulty. In the humerus and ulna the artery runs towards the joint, and in the femur and tibia away from the knee-joint. The effect of this anatomical arrangement upon fractures is well shown in Dennis' table, which shows that there were more ununited fractures in the upper part of the humerus and lower part of the forearm and in the lower part of the femur and upper part of the tibia.

The treatment of this condition resolves itself into constitutional and local. Constitutionally, any particular disease which may be present, such as syphilis, gout, rheumatism, scurvy, scrofula, tuberculosis, or

any other condition which lowers the general vitality, should be attended to.

The local treatment in the past has been most varied, and where there was no intervening substance between the ends of the fragments, some of the following methods which have gone out of use, were employed:

The seton was first successfully used by Physick in 1802. It was either inserted between the ends of the bones or down to them, and allowed to remain there until it had caused sufficient inflammatory action, when it was removed. Irritating fluids were injected down to the seat of the trouble and blisters and electric currents were applied to the skin.

The first operation for excising the ends of the bone was performed by a Mr. White, of England, in 1760.

Diffenbach, in 1848, advocated the use of ivory pegs, which were inserted into holes drilled into the fragments. Pancoast, in 1857, used an iron screw.

The method of perforating the ends of the bones by means of a drill, and thus exciting inflammation, was performed in 1850 by Dr. William Detmold, of New York.

The use of wire in fastening the ends of bone together was used in the times of Hippocrates, but Herean was the first to use it, in 1805, in a case of ununited fracture. At the present time the surgical treatment of ununited fractures is largely limited to drilling the ends of the bones, and, if this proves unsuccessful, to resecting the ends and holding them in apposition by some mechanical means.

From June 1, 1896, to December 1, 1898, 30 months, the following cases of fracture, not necessitating amputation, were admitted to the Robert Packer Hospital:

Fracture of the astragalus.....	1
" " " cuneiform bone	1
" " " clavicle.....	5
" " " " and ribs.....	1
" " " elbow joint, comp. comminuted....	1
" " " femur	4
" " " " ununited.....	1
" " " " anatomical neck, middle third and patella, Lawrence Dunn...	1
" " " humerus, simple.....	2

" " " " compound	2
" " " metacarpal bones, 1st, 2d, 3d... ..	1
" " " " and carpal bones.....	1
" " " patella	3
" " " radius.....	2
" " " rib.....	3
" " " scapula, glenoid cavity.....	1
" " " skull, base.....	3
" " " " vertex.....	2
" " " scapula, glenoid cavity and coracoid process.....	1
" " " scapula, glenoid cavity and coracoid process and left ant. superior spinous process of ilium.....	1
" " " tibia.....	9
" " " " compound, comminuted.....	3
" " " " ununited.....	4
" " " right humerus, comminuted, comp. of left femur, middle third and anatomical neck, right femur, middle and lower thirds.....	1
Pott's fracture.....	2

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Of these cases, three were admitted primarily as ununited fractures; one of the lower third of the femur and two of the lower third of the tibia.

Of my own cases, four did not unite primarily; two, in which the fracture occurred in the middle of the femur, and two at the lower end of the tibia.

A short account of these cases, I think, would be of interest. We will take up the fractures of the tibia first.

Jasper F. Everett was admitted to the hospital December 10, 1896, with the following history: Seven weeks previous to admission, in falling from a height, he struck his left leg against a wagon-wheel and fractured the bone. Examination revealed an ununited fracture of the lower third of the tibia and middle third of the fibula, with considerable overriding of the upper fragment of the tibia.

On December 15 the patient was etherized. An incision was made down upon the bone, the ends of which were united by ligamentous structures. The ends of the bone were thoroughly loosened up, and a determined effort made to reduce the fracture. Notwithstanding I could take the ends of the bones between my fingers, I could not place them in perfect apposition. This was due to the obliquity of the fracture and the extreme raggedness of the edges.

My object in attempting reduction was on account of the patient's very evident desire to place the responsibility of non-union upon his attending physician. It was the opinion of those physicians present that it was utterly impossible to reduce the fracture. The ends of the bones were then squared up, holes drilled and the fragments held in perfect apposition by heavy silver wire. The patient made an uneventful recovery, and remained in the hospital till the 24th of February, 1897, when he was discharged. The bones seemed to be united, but not very firmly. He was to have reported subsequently, but I have never heard from him, and cannot say whether union finally became solid or not.

I do not think this was a case of delayed union. I believe the position of the fragments was sufficient to prevent union, and nothing was to be gained by waiting a number of months. During his stay in the hospital he received general tonic treatment, with compound syrup of the hypophosphites.

October 21, 1897, J. L. Ambs was admitted to the hospital, suffering from an ununited fracture of the lower third of the left leg. On July 5, previously, he had had his leg broken by having a tree fall on it. On October 25 the patient was etherized, and an incision made down upon the bone, and found the ends in most excellent apposition, but ligamentous union. The bones were separated, and about a quarter of an inch of each bone sawed off; the fibula was fractured and the lower part of the leg pushed up. The broken tibia was held together by silver wire. Patient made an uneventful recovery. The fibula united, but the tibia, despite continued and persistent constitutional treatment, failed to unite.

On November 23 I reapplied a new plaster of Paris bandage, and instructed the patient to walk on the leg. He was discharged from the hospital on November 27, with request to report to the dispensary.

On June 16, 1898, he reported, and on ex-

amination I found there was still no union.

Why there was no union I am not prepared to say. The patient appeared to be in good physical condition, and there was nothing about the limb which should have prevented bony union. His system, apparently, was unable to form bone material.

The next case is an unusual one. Edward Lewis, age 15, was admitted to the hospital March 20, 1897, with the following history: He had had his right femur broken twice, right tibia once, left femur once and right humerus once. His first fracture occurred when he was two years old. During the latter part of December, 1897, while skating, he fell, striking on his left knee and fracturing the left femur. The bone failed to unite. On admission the patient was a very thin, anæmic and undersized boy for his age, not very bright mentally. The left femur was fractured at its middle and there was considerable overlapping, the lower fragment being drawn upwards and outwards. During entire illness the patient had been faithfully attended by his physician, who had given him tonics and bone-forming medicines of various kinds. Examination of chest failed to reveal any abnormality. On March 30 he was operated upon. The lower fragment was found drawn up about three inches and united by ligament and a small bridge of bone extending from the end of the lower fragment to the outer lateral aspect of the upper fragment. The ends of the bone were squared and held together by silver wire. The patient took ether badly, and sank rapidly, notwithstanding the most active stimulation and application of warmth, and died about five hours after the operation.

Several factors enter into the cause of non-union in this case. The number of fractures which the patient had sustained was undoubtedly the most important cause of the failure to unite. Some grave defect in the nutritive and bone-forming constituents of his blood, and the overlapping to such an extent of the fragments. As you

noticed, nature made an attempt, though feeble, to cause union, but was not equal to the task. It is probable had it been possible to hold the bones in perfect apposition that in time the firm bony union might have taken place.

Of my own cases of non-union there have been four.

Richard Woodcock, age 47, was admitted to the hospital on October 5, 1897, suffering from a compound, comminuted fracture of the lower portion of the right tibia, produced by a heavy weight falling on his leg at the Union Bridge Works. The wound was as thoroughly cleansed as possible, dressed and put up in plaster of Paris, which was several days later removed and lateral splints applied. The limb did very well, the drainage was gradually withdrawn and on November 10 I noted on his history chart, "Dressed limb this A. M. Union very slight; ulcers healing nicely; applied plaster of Paris splint."

On November 26, noted ulcers healed, union apparently more firm than at last dressing. Patient was discharged, as he desired to return home.

On January 5, 1898, he was readmitted to the hospital with union no firmer than when discharged in November.

On January 7, I operated upon the limb, and made this entry: This A. M., assisted by Drs. Kistler and Hunter, with Dr. C. L. Stevens present, operated upon patient. Found original fracture had consisted of about a dozen fragments which had united by ligamentous union only; except two or three fragments which were loose. There was no bony union anywhere. Removed all the fragments, squared the ends of both upper and lower fragments, and brought them together with two heavy silver wires. Removed a long splinter of the fibula which had not united. Applied usual dressing, and over it a plaster of Paris bandage. The patient was apparently not very robust, and about this time began to develop a cough. Examination revealed slight increased per-

cussion, dullness and vocal fremitus at apex of both lungs.

He did very well, however, as regards the leg, and was discharged from the hospital on January 21, with the wound healed. He attended the dispensary. The bone failed to unite, and in March several sinuses formed about the seat of the operation. He was again readmitted to the hospital on April 6, 1898, and operated upon on April 9. I found that the fibula which had been fractured at the former operation and pushed up had united by bone, but that the tibia had not. The bones above and below fracture were intensely congested, softened, and contained foci of pus. The lower fragment especially was so disintegrated by the osteo-myelitic process as to be compressible between the fingers. The limb was amputated on the 11th. The flaps united by first intention, and he was discharged on the 22d, eleven days after the amputation, with stump healed, except where the tube had been. The patient failed very rapidly during the following months, developing acute phthisis, and died during the late summer, I believe.

The cause of non-union in this case was doubtless the severity of the comminution and his general condition, tuberculosis probably having begun before his injury.

The next case should have presented no difficulty in uniting. Ezra James, age 23, colored, was brought to the hospital, March 24, 1898, suffering from a fracture at the middle of the left tibia, caused in jumping from a moving train. The patient was a healthy, muscular young man, a waiter by occupation and an amateur boxer. I had not seen a better developed or healthier looking young man for a long time. Lateral splints were applied after fracture, which was very oblique, but not ragged, had been reduced. On the 26th plaster of Paris was applied, and in a day or two patient was allowed to be up and about. The case progressed uneventfully, but union failed to become solid. On May 26 a new plaster of

Paris was applied, with motion still at seat of fracture. The patient was discharged, with instructions to walk on the limb and to report.

The patient returned on June 22 with the limb in the same condition as when he left. Several days later he was operated upon. Nothing abnormal was discovered at the seat of fracture, where ligamentous union had formed. This was chiselled out, and the bones held in apposition by an aluminum plate fastened by means of ivory pegs.

The patient made an uninterrupted recovery, the plate was removed and he was discharged August 24, 1898, with firm bone union.

This may, perhaps, be called, by some, delayed union, but I think operation was perfectly justifiable.

The cases of non-union of the femur present some interesting problems.

Lawrence Dunn, age 23, was admitted to the hospital on June 23, 1897. Some hours previous to admission patient was injured by having a tree fall upon him.

Examination revealed a fracture of the anatomical neck and middle of right femur, and a comminution of right patella.

The patient was etherized and the patellar fragments wired together. Extension was applied to the limb. The fractured patella united, and by keeping up passive motion the knee-joint remained movable.

The fracture of the middle of the femur failed to unite. On August 26 the patient was etherized and an incision made down to the bone on the outer aspect of the thigh. It was found that the lower fragment had been crushed downwards through the vastus externus muscle, and that torn muscle between the ends of the bone prevented not only union, but the satisfactory reduction and apposition of the fragments which at no time had been possible. The torn muscle was removed, the ends of the bone squared with the chain saw and held in apposition by an aluminum plate fastened with ivory pegs. The patient made an uninter-

rupted recovery, and was finally discharged with good solid union.

I have still another case of this kind of injury, namely, John Moore, admitted to the hospital May 30, 1898. The day of admission the patient, a lumberman, was caught beneath a falling tree and received the following injuries:

Comminuted fracture of the right humerus; fracture of anatomical neck and middle of left femur; fracture of upper and lower thirds of right femur, the latter fracture being compound.

The fractures of the femur were treated on double inclined planes, with extension, and the humerus with ordinary humeral splints.

The patient got along comfortably, and all of the fractures united, except the lower one of the right femur. Here we had the same difficulty as with the previous case. I was unable to reduce the lower fragment, which projected as a sharp point, just under the skin, which it had at the time of injury punctured.

On August 11 he was operated upon, and the vastus externus found torn and between the ends of the fragments. This was removed and the ends of the bone squared and plated. The operation wound healed nicely, the patient being kept in bed a number of weeks, when he was allowed up on a roller chair.

During this time the ivory pegs became more or less absorbed, allowing the aluminum plates to loosen, when I discovered that no union had formed.

On November 3, 1898, I again cut down on the fracture, and found there had been no callus thrown out whatever. I reapplied a plate, and dressed the limb as usual. The wound healed promptly, and at present the patient is still in bed; I trust union has taken place.

I have mentioned using aluminum plates and silver wire. I find a plate can be used with less disturbance to the bone and attached muscles in a larger number of cases

than wire. In compound fractures, when it is difficult or impossible to hold the fragments in apposition, it is invaluable. In conclusion I beg to say that I believe it good surgery, where non-union persists in a fracture after eight or ten weeks, to operate and hold the ends in apposition by some mechanical means, preferably wire or plates.

Original Articles.

PUERPERAL ECLAMPSIA.

BY ELI COOVER, M. D., OF HARRISBURG.

[Read before the Dauphin County Medical Society February, 1899.]

Despite the efforts that are being made by the medical profession, we will meet a case of this peculiar and alarming character every now and then.

The accompanying cause of these sudden and frightful outbursts of this disease is the gravid uterus; but just how this condition is brought about so as to disturb the system and effect these peculiar and unforeseen changes that take place during the pregnant period is yet a mystery. It is true there are many hypotheses and conjectures as to what takes place and how it is brought about, but no one has arrived at any definite conclusion. Traube and Rosenstine attribute convulsions to anæmia of the blood vessels of the brain incidental to pregnancy. Dr. McDonald, of Edinburgh, has more recently come to the conclusion that convulsions are due to an anæmia of the cerebro spinal center with congestion of the meninges, the result of an irritation of the vasomotor centers from an anæmic condition of the blood.

Dr. Parvin says this is an acute disease occurring in women in pregnancy, in labor or in childbed; that it belongs to the pathology of pregnancy rather than to that of labor or childbed; that it is more serious if it occur in pregnancy than in labor or in

childbed; that the convulsions usually set in about the seventh or eighth month of pregnancy, while convulsions in labor come on at full term in childbed soon after delivery.

That we may anticipate the occurrence of an attack of puerperal convulsions, or be the better prepared to prevent an attack from breaking out, it is good practice to begin the examination of urine no later than the sixth month of pregnancy, as we not infrequently have convulsions set in as early as the seventh month. If there be any functional disturbance other than nausea of the stomach, it usually begins to show itself about this stage of the pregnancy. By carefully noting all the symptoms from time to time a very correct diagnosis of the case can be made. The symptoms will lead one to the nerves if the patient be nervous; to the kidneys if due to albuminuric or uræmic poisoning; to the brain if due to meningeal congestion; or to the appearance of the skin and tongue if due to great general anæmia. To arrest the disease when in its incipient stage means to prevent the probability of the death of either mother or child, or both.

In 1872 and 1873 it was my privilege to see a goodly number of cases of puerperal eclampsia in my own practice and in consultation. At that time we seldom examined the urine of our patients, but my record shows the largest number of puerperal eclampsia cases occurring during the pregnant stage from the seventh to the eighth month. It does not show the cause, whether from neurasthenia, pressure of the head of the child on the rigid os, or from uræmic poisoning; hence my record shows nothing more than this, that the greatest number of cases occurred in the pregnant state, and that during some seasons and in some years we have a great many more cases occurring than in other seasons or years.

I was always in the habit of speaking of this prevailing disease occurring at such

periods as an epidemic or as an endemic. If it traveled over a large section of the country it would be called an epidemic; if it was confined to a single locality it was called an endemic.

The eclampsia cases are usually rated as 1 to 1,000; the mortality is much less, 45 in the pregnant stage, 29 in labor.

Dr. Tyson is authority for the theory that acute nephritis underlies the larger majority of serious cases of puerperal convulsions. This may be present at the time the woman became pregnant, or have preceded the pregnancy, or it may be acquired during the pregnancy. There seems to be no doubt but that a large proportion of the pregnant women attacked with eclampsia before the full term of pregnancy expires, is of an uræmic origin, and that this element of disease has been active for months in the kidneys and is finally carried to the blood and nervous system. I will venture the assertion that it is the experience of nearly all, if not all, present, that the largest number of eclampsia cases occurring in their practice is due to uræmic poisoning; yet there are some cases we meet with that are purely neurasthenic or of a meningeal character. In either case the vital organs, or any one of them, are in danger of being suddenly attacked by an undue amount of poison in the system, or too great irritation on the nervous centers or meninges of the brain.

But my thoughts run out and inquire, How is this brought about, and what happens that the kidneys become involved so that albumin is generated and uræmic poisoning becomes such a potent factor for evil in these cases? The uterus, as we all know, is suspended in the pelvis. The beginning of this disturbance is supposed to take place in the pregnant womb, due in my opinion, to pressure on the rigid os and walls of the womb. This constant and persistent pressure on the nerves of the womb becomes a source of great irritation. This irritation continued on the nerves of the womb soon disturbs the sacral plexus of

nerves. This disturbed condition of this very important system of nerves is soon transmitted to the spinal cord, thence to the kidneys, which are organs liberally supplied with nerves and blood vessels. These nerves are irritated; these blood vessels become congested, and in time, about the seventh or eighth month of pregnancy acute Bright's disease of the kidneys is developed. A poison is now generated in the kidney, the blood becomes poisoned and anæmic, very soon the vasomotor centers are disturbed and the meninges are congested, a light headache comes on, a giddy feeling is experienced, with dimness of vision, and very unexpectedly there is an outburst of convulsion. As soon as the physician's attention is called to any of the above symptoms, he should examine the patient's condition carefully, look for sudden changes to take place at any moment and prepare to meet them, test her urine for albumin and treat promptly.

If the patient is looked after assiduously, it is possible to relieve her of this poison, prevent convulsions and carry the woman to full term. The child will be born alive and the mother make a good recovery. She may not, however, consult her physician before the first convulsion comes on, for the symptoms may not have sufficiently developed as to cause alarm and no one is culpable, but when these symptoms do once develop, and when there is not some effort made to stay the further progress of this disease, your patient will go from bad to worse, the blood will become anæmic, the blood vessels will weaken, the nervous system will be poisoned, the meninges will become congested, and when labor sets in the heart may give away suddenly, and the woman die from heart failure—or the brain be attacked, convulsions break out, a blood vessel rupture in the brain or a deep coma come on and the case soon shows signs of approaching death.

It is the duty of every physician who is engaged to attend a woman in her confine-

ment, if she is not in a good condition during her pregnant state, to look after her carefully, study her economy and institute prophylactic measures from first to last. In my opinion it would greatly facilitate the work of the physician if our women at this time had some knowledge of what sometimes happens, and when certain symptoms show themselves or are felt by the patient, to consult her physician so he can better study her condition.

In puerperal eclampsia, accompanied by uræmic poisoning occurring during the pregnant stage of the disease, there is marked temperature rise, but in puerperal eclampsia, unattended by uræmic poisoning occurring in pregnancy, in labor or in childbed, there is little rise in temperature, if any. As a rule, says Dr. Parvin, there are no more temperature changes in these convulsions than we have in cases of urinary retention or renal failure. To further quote, "When the temperature remains about the same during the interval between the attacks there is no abatement of the cause that brings about this condition. If the temperature continues to rise during the interval between attacks, fatal results are to be feared, but if the temperature begins to fall during the interval between attacks and continues to fall, the case becomes more hopeful." As soon as the kidneys become involved, we begin to have disturbances of the blood and nervous system, and the following symptoms ensue: Giddiness and headache, dimness of vision, palpitation of the heart, the eyelids are puffed, breathing becomes more hurried, slight nausea of the stomach, the bowels are constipated, the urine becomes scanty, the feet and legs are swollen, the appetite is not so good, the sleep is somewhat disturbed and convulsions may come on at any moment.

It will be borne in mind that all cases in which you find albumin in the urine do not take convulsions; indeed, the smaller number become the subject of puerperal eclampsia. "We must keep in view this one fact,

that the living body in health is constantly evolving poison or toxic agents which, if retained in the blood and tissues, would constantly produce general functional disturbance and cause disease." It is this ability or efficiency of power, which some persons have, to eliminate this poison or toxic agent and save themselves from disease, and, in many instances, from death. It is this class of patients that often agreeably disappoint the physician, and the patient is the happier for not being attacked.

Dr. Tyson holds, therefore, that "irritation, as the pressure of a child's head upon a rigid os, may produce convulsions." If pressure on a rigid os may produce convulsions, which I believe possible, then to what cause are these convulsions due at this stage of the pregnant womb? It cannot be the pressure of the head of the child directly on the os in labor, for the woman, nine times out of ten, is not in labor when the first convulsion comes on. It cannot be a childbed convulsion, for the woman is not yet confined; but if either of the above conditions at this stage of pregnancy is likely to bring on convulsions, then in my opinion albuminuric or uræmic poisoning, in a large number of cases we meet with, is the indirect cause, while pressure of the head of the child on the rigid os is the direct cause.

Many years ago I attended a lady pregnant with her sixth child for sick stomach. She vomited all she ate, and was sick at the stomach day and night. My efforts failed to relieve her. There was no abatement of her disease whatever. After the third month she concluded to try homeopathy. Dr. Freese, then one of our city physicians, was employed and attended her quite a while and finally salivated her. This was an old practice. It did her no good; she became my patient again; all she ate or drank came up; she grew thin and weak, and something had to be done. The situation was explained to husband and wife, and a premature labor was suggested to relieve her suffering and save her life. She

was then in her fourth month, having already quickened. I passed a female catheter within the os, up the neck of the womb, until I felt a resistance like a fluctuation, continued gentle pressure and the membrane gave way. About half a teacup of fluid, tinged with blood, passed away, her vomiting ceased, she could sleep all night; she began to eat, and all she ate remained in her stomach. She gained strength and flesh rapidly, and from that time till her full term of pregnancy nothing happened. She was confined, her child lived and is now about 22 years old. The mother recovered nicely, and no harm followed. I give this case to illustrate how the constant pressure of the head of the child on the os and walls of the womb can become a source of irritation in the pregnant womb, sufficient to disturb the pelvic plexus of nerves and enough to cause not only a sick stomach, but to bring on acute nephritis, for had this woman not gotten relief and had lived to her seventh or eighth month of pregnancy, is it not probable that Bright's disease would have set in, and the case gone on from bad to worse, until the meninges would have become congested, and she might have been subjected to the same chance to puerperal eclampsia that others are in this same condition? Statistics show that puerperal eclampsia seldom comes on before the seventh or eighth month of pregnancy, thus indicating that in these cases, unless there is some provoking cause other than pressure, it requires some time to affect the renal organs and bring on acute Bright's disease.

I have said it takes quite a while to bring about this condition in most cases, but the same results can be superinduced in ten hours. Many years ago a patient of mine, perfectly healthy, in her seventh month of pregnancy, went out on a damp, slushy day in March. The ground was covered with snow, the river was covered with ice about to break; she was on the river bank for hours in this snow and slush, walking and standing, until she became chilled. She

went to her home a short distance away, at once took her bed, and before eight o'clock that evening she suddenly and unexpectedly took a convulsion, which was followed by others in rapid succession. Dr. Free, who lived nearby, was called and at once sent for me. We bled her largely, she still being convulsed, the os being closed and rigid. We gave her 60 grains of hydrate of chloral and the same of bromide of potassium per rectum, which quieted her nervous system somewhat, but the convulsions broke out every half hour, and she was unconscious during the interval between attacks. I removed her urine and made a test of some of it by heating it. It became solid albumin, and the addition of a few drops of nitric acid did not make any change in its consistency. About midnight Dr. Free and I believed it was best for the woman to bring on a premature birth. Several doses of the chloral and bromide mixture had been administered to her per rectum during the interval, from 8 to 12 o'clock. After carefully preparing my hand and finger I introduced them into the vagina, and with my index finger began dilating the os. After persevering for some time, I succeeded in getting my finger into the womb so that I came in contact with the head of the child. I then passed two fingers in and so on until I succeeded in getting my hand in the womb, caught the foot, turned and delivered the child, the woman being still in an unconscious state. The child was still-born. The convulsions continued off and on until the next day, when consciousness returned and she made a good recovery. Was this an acute nephritis set up by this exposure of a few hours, or was it a latent Bright's disease that developed because of this exposure?

November 1, 1897, I was sent for by Mrs. W. She was pregnant for the first time, although she had been married for eight or ten years. An examination revealed the fact that she had already quickened, and was in her sixth month of pregnancy. She

informed me that Dr. Blank had attended her for three months for sick stomach and vomiting, but did her no good. I made a careful vaginal examination, and found nothing that was unnatural at that stage of pregnancy. The case was then treated until December 9, when she died suddenly. The urine had been carefully examined, and there had been found some albumin at six and a half months—none before. Medicine did her no good; she steadily grew worse. The rupturing of the membranes was suggested and the probable result explained. I believed the chances for her recovery would be increased by this method of treatment, but it was declined until December 8, when the husband agreed that I should bring with me Dr. James, and if we decided it best we should do so. I saw the doctor on the morning of the 9th, and an afternoon hour was fixed for the consultation. When I went to the house I was sent upstairs hastily, and there was my patient in uræmic convulsions. She died in fifteen minutes. This was the first convulsion. If she had been relieved of the great pressure of the uterine contents on the womb and os uteri, even though the rupturing of the membranes would have resulted in a premature birth, she might have been saved.

I have seen a large number of cases of puerperal eclampsia during the seventh and eighth month of pregnancy. Some I failed to carry to full term and I have failed to save the lives of others, but in looking over my record of such cases attended in their pregnant stage and the success that accompanied my efforts in carrying most of them to full term and delivering the child living, with the mother making a good recovery, I do not know if I could do any better to-day than I did in 1872 or in 1880, when it was again my privilege to see in my own practice and in consultation a number of women with puerperal eclampsia. In 1880 I examined the urine in most of the cases in my own practice. My record shows that the larger number of cases occurred in the

pregnant stage, attended with albuminuric poisoning. In 1872 I treated the cases as the symptoms presented themselves; in 1880 I watched the thermal changes and the uræmic condition of the patient very closely, and was guided much by these conditions in the system.

In my opinion we are perfectly justified in speaking of atmospherical diseases prevailing epidemically and endemically now, as we did years ago. In 1872 and 1873 we had an epidemic of puerperal eclampsia, accompanied by puerperal fever prevailing, many deaths occurring in this city, some from puerperal eclampsia, some from puerperal fever and some from heart failure or some unknown cause. This epidemic, if my memory serves me right, began about Sunbury, came down on this side of the river to Harrisburg, crossing the river about Steelton, into York county, traveling along in a belt about one mile wide to York, and then to Baltimore, causing the death of dozens of pregnant women, but how many died in the pregnant stage I cannot tell. I saw more cases of puerperal eclampsia in that year in my own practice, and in consultation, than I did the eight following years, and did a large obstetrical practice. Again, we had a very similar epidemic of puerperal eclampsia and puerperal fever in 1880 and 1881, but this was more local, confining itself to Harrisburg, across the river to New Cumberland, White Hill, West Fairview and Bridgeport. I saw more cases that year in my own practice, and in consultation, than I have seen in all the years since; of course, for the last five or six years my obstetrical practice has not been so large, yet I have seen some in my own practice and assisted other physicians in delivering a goodly number of women; but there was not that tendency to puerperal eclampsia in my late practice as during 1871 and 1880. I have always believed that diseases which travel in cities, towns and through the country, were due to some poison in the atmosphere and not to impure water, diseased

milk, sewer gas or bad drainage. If these diseases that prevail at certain seasons and in certain localities at long intervals, are due to some microbe prevailing at that time they must be like the seventeen-year locusts, lie dormant for a time, then come forth to attack and destroy women in this condition.

I will not attempt to give a treatment in all its details, but will give the leading remedies employed in the management of such cases referred to in my paper. The main object is to remove pressure, allay irritation, prevent congestion and support the system. If puerperal eclampsia came on before the case was examined I would then treat the indications as found. If the patient was a full, plethoric person, with a florid complexion and a full bounding pulse, with albuminuric poisoning in the system or none, I would bleed and bleed largely, so as to make an impression as quickly as possible. If the convulsions did not yield to this treatment, or if the case were one not suitable for the blood letting, I would then give from 40 to 60 grains of chloral, with the same quantity of bromide of potassium or sodium per rectum, and repeat if necessary every hour. But if my patients were exceedingly nervous and there was no evidence of albuminuric poisoning in the system I would give morphine hypodermically. In any event, I would give a dose of calomel, act on the liver, follow in a few hours with a brisk cathartic, and move the bowels freely, which will greatly relieve the portal circulation and remove any irritating substance that might be an inducing cause in bringing about this condition and equalize the circulation. Inhalations of chloroform, ether, nitrite of amyl, often quiet this nervous irritation in the nervous cases. Basham's mixture as a remedy during the interval between the attacks is, in my opinion, a valuable means of sustaining the blood and relieving the system of the poisonous condition of uræmia in these cases. When the pulse is very frequent, the temperature very high, Norwood's tincture of veratrum viride

in 6 to 12 drop doses, or the tincture of digitalis in 10 to 20 drop doses, every two or three hours for twenty-four hours, reduces the force and frequency of the pulse, lowers the temperature, relieves the hyperæmia of the brain, quiets the nervous irritation and greatly lessens the danger of convulsions. Blood letting takes away that fullness to the brain and equalizes the circulation, relieves the congestion of the kidneys, liver and the meninges. Chloral and bromide of potassium are relaxing agents and relieve the great tension and irritation of the nervous system caused by pressure, or from whatever source it may come. Morphine should be employed in neurasthenic cases only, for where there is albuminuric poisoning in the system its use is contra-indicated, unless you wish to produce eternal coma.

DISCUSSION.

Dr. Seibert said that in an obstetrical practice including 2,000 cases, he had personally met with perhaps 15 or 20 eclamptic patients. He would take it as granted that a condition of hyperemia prevailed and the relation it should sustain to the treatment of the patient. He would always bleed in sthenic cases, and free bowel movements he would consider of the next importance, and in the securing of the latter, he would rank croton oil of the highest value in securing the quickest results. He was in the habit of exhibiting 16 drops of croton oil in 1 oz. of syrup of acacia, shaking well and administering the same in one-half teaspoonful doses by the mouth, touching the fauces with the handle of a spoon, when the patient would invariably swallow the drug. In one hour, two to four drops could be swallowed, and two to four copious and watery stools would follow. Elaterium he found to be unreliable, while croton oil could be depended upon in all cases. Chloral he had found to be of some importance, but he believed the bromides to be very slow in effect in these cases. Chloroform he had used somewhat extensively and had secured good results, even better than in bleeding in some instances. He had secured free diuresis with pilocarpine and had used digitalis and quinine for the effacement of the albuminuria, for some time after the eclamptic attack. He had treated the cases according to the prevailing symptoms and indications, nervous cases differing from robust in symptomatic expression. He had never produced a premature labor. Free purgation had always secured excellent results and in consulta-

tion cases, he had found this point often somewhat neglected. He would produce revulsion from the brain in some manner, and when bleeding, he had removed from 1 pint to 1 quart of blood. Next in order he would place catharsis and diuresis and in emergencies he would not neglect the exhibition of chloroform. He would only use morphine in nervous sensitive women, who might be irritated by perineal pressure, but would of course avoid its use in uræmic cases.

Dr. Duff had a number of cases and had been fortunate in losing none of them. It had been his practice to bleed very freely and follow with morphine, chloral and bromide. Five years ago, he had attended a case of convulsions, occurring in the seventh month of pregnancy. He removed nearly a quart of blood, gave an hypodermic of morphine at 11 A. M. and at night delivered a seven month child, with recovery to the woman. He recalled a case occurring two years ago, where the woman presented swelling of the feet and ankles, dizziness and cephalalgia, six weeks before childbirth was due. He secured free catharsis and diuresis, and the pain and swelling subsided; the woman giving birth to a healthy child at the proper time. In his practice the use of the solid stick of silver nitrate, freely applied to the os uteri, usually conquered the nausea of early pregnancy.

In his earlier practice among the mountains and valleys around Chambersburg, Dr. Blair had been amazed at the recital of a large number of cases of puerperal eclampsia, some of which had recovered, while others had died, without medical attendance. The treatment that had been given these cases by their neighbors, consisted in first resorting to bleeding, followed by large doses of hop and lobelia tea, followed by a thorough purgation with croton oil and large doses of jalap. The old women attendants would always emphasize the value of lobelia tea. A point indirectly bearing upon these cases, was the fact, that the lay mind did not recognise the distinction between childbed fever and puerperal convulsions and the physician gets the blame in an unfortunate issue of the case from his vaginal examination. He would therefore be inclined to present a friendly warning concerning the spreading of reports of culpability, and every case of obstetrics whose outcome might prove to be unfortunate to the patient.

Dr. Saul had treated two cases, which he recalled. The first had fallen down stairs which accident precipitated convulsions, lasting for 24 hours. The child was delivered two hours after the convulsions set in and the case resulted in death. The second case had a convulsive attack while he was obstetrically attending her. He

etherized the woman and delivered the child, the mother remaining unconscious for thirty-six hours but finally recovering.

Dr. Ellenberger thought that the subject was of very great interest to the general practitioner and the topic was always a timely one to discuss. There was no spectacle, in the whole range of a practitioner's experience so awful for him to contemplate, as a typical eclamptic seizure, the convulsive muscular contractures, the sardonic facial aspect, the mouthing, the frothing, the cries, in some cases of the sufferer, being more than enough to appal the stoutest heart. It is then that the resources of our art can be successful, though not always so despite what we do. Frequently fatal results accrue to both mother and child. He had seen a good many cases, fully one-third of which had died. His first case he had seen with Drs. Eli Coover and Walter. The case was seen in its eighth month. It was concluded to rupture; the child was speedily delivered, there was no coma and everything was resorted to, save bleeding, but she died. On the same day in the third year of his practice he had his second case, certainly enough experience for a young practitioner to have. It was a case of rapid labor and she was in labor when he was called. Profuse flooding occurred and she recovered. He believes as a whole that we are somewhat remiss in examining the urine at intervals in the course of a case of pregnancy.

Dr. Walter thought that the topic presented a vast field for discussion. Cases referred to in the reading of the paper, occurring at the seventh or eighth month were more favorable in their outcome, generally, by following recognized standards of treatment, while those accentuating themselves at full term, were distinctly unfavorable. A woman who had had a bad night previously and concerning whom he knew nothing as to her pregnancy, and whose family was likewise ignorant of it, but where marriage was to follow, became horribly convulsed at the first call which he paid to her at seven or eight o'clock in the morning. He learned that no urine had been voided, sent for help, delivered and the woman was dead in three-fourths of an hour. Such cases are the ones which unman a physician, but those for which he is prepared by proper urinalysis, are the ones which should be more favorable in their outcome. Nervous cases are helped by morphine, but uræmic cases are more generally fatal.

Dr. James had met with only two cases in a practice of 20 years. He believes in the theory of the etiological factor as existent in the absorption of toxins, which fail to be naturally eliminated and would agree that pressure-stasis was also concerned in the establishment of eclampsia.

The ideal treatment therefore would be to consider its prophylaxis and to bring to bear upon every pregnant woman from the fifth month of pregnancy to its termination, a free emunctory activity. A systemic normal working condition of all the bodily powers ought always to be aimed at. He recalled one case that he had where he had chloroformed, dilated and rapidly delivered, securing very free hemorrhage, which he thought had a great deal to do with her recovery, although she remained unconscious for twenty-four hours with horrible convulsions. He believes that chloroform is the quickest remedy by allaying muscular spasm, although it may only relieve. Bleeding was, however, insisted upon by Penrose, who thought that it relieved pressure symptoms and hyperæmia and who insisted upon its early and full exhibition.

The essayist closed the discussion by insisting upon the necessity of bleeding until the lips of the patient became pale, rather than timidly removing a stated quantity.

The president, Dr. Funk, reminded the speakers that none of them had referred to the importance of a milk diet following delivery.

CHOLELITHIASIS.

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[Read at the Meeting of the Erie County Medical Society, February 7, 1899, at Erie, Pa.]

In discussing the subject of cholelithiasis this evening, I shall refer briefly to some points in the pathology of the affection—to the diagnosis and to the treatment.

That microorganisms have an important influence in the production of biliary calculi has of late years come to be fully recognized, particularly through the investigations of Naunyn. The bacterium coli commune is the microorganism which is most often found; it, of course, enters the biliary passages from the duodenum. There is produced through the agency of this bacterium an inflammation of the mucosa of the gall-bladder. Cholesterin, an important constituent of biliary calculi, is formed from the dead epithelial cells, cast off from the mucosa, which is in a condition of catarrhal

inflammation. The albuminoid secretion of the few glands becomes increased in amount, and leads to the precipitation of calcium bili-rubinate, another common constituent of gall-stones. The stagnation of the bile in the gall-bladder, and its consequent concentration, further promote calculous formations. If to these causes we add the mechanical influence of the corset, in interfering with the ready flow of the bile, and the dragging upon the ducts and disturbance of the relations of the abdominal viscera in pregnancy, we can account for the greater frequency of gall-stones in women.

That the mucosa of the gall-bladder is diseased in cholelithiasis is, in many instances, visible macroscopically. The mucous membrane loses the beautiful reticulated appearance of health, becomes thickened and ultimately sclerotic and atrophied. Ulcers may form and hemorrhage or perforation occur. I have specimens in which there is a distinctly papillated or tuberculated appearance of the mucosa. The muscular and peritoneal coats become thickened, and from the pericystitis adhesions to adjacent parts result. These adhesions are productive of not a few of the subjective disturbances, and in case of operation may materially interfere with the surgeon's manipulations. In some cases the gall-bladder shrinks—it may be impossible to bring it up to the incision in the abdominal wall—or it may completely disappear. The recurring attacks of inflammation which, as we shall see, are usually, though, perhaps, incorrectly regarded as attacks of gall-stone colic, are responsible for these changes in the walls of the gall-bladder. The dilatations of the gall-bladder—cystic formations, in fact—and empyema of the organ should also be referred to in this connection.

That there is a disease of the mucosa and that microorganisms are present are very important facts to remember when we come to the consideration of operative technique, as we shall see shortly.

The nature of the attack: Until recently it has been universally believed that the attack of gall-stone colic consisted of an attempt on the part of the gall-bladder and larger ducts to force the calculi downward into the duodenum. The severe, somewhat paroxysmal, pains were attributed to the contraction of the muscular coats in their efforts to propel the stone along. In all text-books, since the time of Niemeyer, this has been the teaching, and is now almost universally believed to be true. Professor Riedel, of Jena, in some recent publications, has been endeavoring to controvert this idea, and to give another explanation of the attack. He regards attacks of gall-stone colic (so-called) as inflammatory reactions of the gall-bladder and ducts against the stone. A great many persons have gall-stones which never give rise to any symptoms. As long as they lie in the gall-bladder, bathed in bile, and do not enter the cystic duct, they produce no evidence of their presence. When a stone enters the cystic duct, muscular contractions may force it quietly, that is, without pain, into the common duct and thence into the duodenum. Riedel claims that this occurs frequently—that gall-stones are constantly escaping by these quiet, painless muscular contractions. He adduces cases in support of this view. However, when a stone enters the cystic duct, it may lead to acute distension of the gall-bladder and to inflammation accompanied with pain. It is these inflammatory attacks of the gall-bladder that are the real cause of the so-called gall-stone colic—not the spasmodic contractions of muscular fibres in their attempts to force onward the stones. By far the larger number of these attacks are ineffectual; in about 10 per cent. of the cases the stone or stones are forced into the duodenum—these are the successful attacks; they are accompanied by jaundice.

Riedel says that in these inflammatory attacks lies the essence of the entire question of biliary colic. So-called biliary colic is

a manifestation of an inflammation around a foreign body—in this case the gall-stone. He adduces numerous similar cases of inflammation around a foreign body, as seen, for instance, in the inflammation around a piece of necrosed bone, in appendicitis, gout, tonsillitis, etc. Now why these inflammations around foreign bodies occur we cannot say. A bullet may remain imbedded in the tissue for many years and then suddenly give rise to trouble; the same is the case with a sequestrum of bone. Microorganisms cannot always be blamed, for the inflammatory exudate may be sterile. This inflammation Riedel calls perialienitis.

It seems to me that Riedel's explanation of biliary colic is a very rational one, though it is hard to see how inflammation alone can account for the daily recurring pains, of a distinctly colicky character—one must almost believe that the incarceration of the stone and retention with muscular spasm are considerable factors in the causation of pain.

Diagnosis: In typical cases the diagnosis can be made without difficulty. The severe pain in the hepatic region, felt also in the back, and sometimes at the shoulder, the vomiting, fever, icterus, enlargement of the liver, with tenderness on pressure, and the presence of calculi in the stools after the attack, constitute the leading symptoms. However, most of these signs may be present and at the operation no stones may be found. Thus in two cases upon which I operated during the past year, confidently expecting to find gall-stones, because there had been several attacks of severe pain, and vomiting followed by jaundice, no stones were found. In one case there was an infectious cholecystitis, and doubtless also a cholangitis; the gall-bladder was drained and the patient completely recovered. In the other case nothing abnormal was found; perhaps she had had gall-stones which had passed off. It might be mentioned here that drainage of the gall-bladder by the establishment of a biliary fistula is an advisa-

bile procedure in infectious cholangitis and cholecystitis.

Some of the conditions that may be mistaken for cholelithiasis are as follows: Pains due to various affections of the stomach, ulcer, etc., impacted fæces, catarrhal jaundice, attacks of appendicitis, lead colic and renal colic.

The diagnosis, in many cases, is by no means easy—only an exploratory incision will enable the surgeon to come to a positive conclusion. The adhesions about a gall-bladder that has been inflamed may give rise to pains which are difficult to interpret. It is furthermore to be remembered that there is a relation existing between the presence of gall-stones and carcinoma—gall-stones may be said, in fact, to cause carcinoma. In chronic cases, therefore, the possibility of the presence of cancer of the biliary passages or gall-bladder is always to be borne in mind.

In general, it may be said that repeated attacks of jaundice, associated with pain in the hepatic region, with free intervals, denote the presence of biliary calculi.

The icterus in cholelithiasis comes on more rapidly and does not last as long as that of catarrhal jaundice. The intermittent hepatic fever of Charcot, which accompanies some cases of cholelithiasis, may lead one to think of a suppurative process in the biliary passages, or even of malaria, or of aseptic pylephlebitis with multiple foci of suppuration. In a septic thrombosis of the portal vein the severe and repeated attacks of vomiting are somewhat characteristic.

The jaundice may be caused by a malignant tumor pressing upon the common duct; in such cases there may also be fever. Naunyn records two such instances, and at the present time we have under observation a patient who for some three months has been losing flesh, is moderately icteric and has an intermittent fever, the temperature rising as high as 104 degrees F. in the evening. My medical colleague has made

a diagnosis of carcinoma in or about the head of the pancreas—I believe it to be a case of infectious cholangitis with gall-stones. The spleen is not enlarged, and that is the reason that my colleague believes that it is not an infectious case, but one of carcinoma. An explanatory incision will, in the near future, clear up this case.

When the stone is impacted in the common duct there is usually, though not always, continued jaundice. As Fenger has pointed out, a stone in the common duct may act as a sort of ball-valve, closing the duct until dilation occurs above it, allowing it to recede; the bile can then escape and the jaundice disappears, returning, however, when the stone again becomes impacted. It is to be recollected that in these cases of protracted jaundice operation is particularly grave, owing to the danger of hemorrhage; not a few patients have died from this cause.

Treatment: Concerning the medical treatment of cholelithiasis, I am not qualified to speak. Judging, however, from the literature, from conversations with general practitioners and from the experience I have had in cases referred for operation, it would seem that diet, hygiene and drugs have comparatively little influence. Naunyn, our greatest authority upon cholelithiasis, asserts that in no way can diet exert any influence, except in a general way—gall-stones are not the product of metabolic disturbances. The pharmacopœia contains no drugs that act as solvents for biliary calculi. Olive oil is useless, according to most writers; however, there are some who firmly believe in its efficacy. Doubtless some of the gentlemen present have had experience with this remedy, and I should be very glad to hear it.

On the continent of Europe persons suffering from gall-stones are usually sent to Carlsbad, provided their means will permit it, or the Carlsbad salts are given at home. Naunyn states that before operative measures are resorted to, a Carlsbad cure should

always be tried first, and he speaks very highly of it. Unquestionably many gall-stones are passed in Carlsbad and many patients are improved by taking the water. Riedel states that the Carlsbad water has no specific influence—any purgative would do as well. He says that the beneficial results are to be attributed to the depletion of the portal circulation and the consequent derivative influence exerted upon the inflammatory process in and about the gall-bladder. Riedel states that much valuable time is lost in these Carlsbad cures. He states that the worst cases that he sees are those which for a long time have been treated medicinally. The adhesions about the gall-bladder, impactions of stones, carcinomata, and grave systemic depression are much more often encountered in the higher classes who have been able to avail themselves for a long time of the various baths and health resorts of Europe. Among the poorer classes the patients come to operation earlier, for they cannot afford to be ill for a protracted period and to spend money in visiting health resorts.

We come next to the operative treatment. In the first place what are the indications for operation—when shall it be done? I believe that operative interference should be resorted to,

1st. *In the intervals* between the attacks if a patient has had, say two or three attacks of considerable severity—just as in cases of recurring appendicitis one advises operation after two or three attacks. Unless it is necessary, owing to danger from perforation, one would prefer not to operate at the height of an attack.

2d. Acute infectious cholecystitis should be operated upon—so, also, cases of infectious cholangitis—whether stones are suspected or not.

3d. When the gall-bladder is distended; when an empyema exists.

4th. All cases of impacted stone.

5th. When one or other of the various forms of biliary fistulæ is present, and when

there is intestinal obstruction, resulting from the lodgment of large biliary calculi.

Now, suppose we have a case in which the diagnosis of gall-stones has been made—there have been repeated attacks—stones have been found in the fæces—the patient has been jaundiced—has had large amounts of morphine—or perhaps has had to be chloroformed at the height of the paroxysms. We prefer to operate in the interval between attacks, i. e., when jaundice is slight or absent. What incision shall be made?

Kocher advises an incision parallel or nearly so, with the costal border—this divides no nerves supplying the rectus muscle—hence is not so likely to be followed by weakening of the abdominal wall and hernia. Another incision is the vertical one, at the outer border of the rectus. This of necessity divides some of the intercostal nerves and thus paralyzes one or more of the segments of the rectus. However, there is not much danger of a hernial protrusion through this portion of the abdominal wall. Personally, I prefer the vertical incision as it affords me better access to the ducts. A combination of the two incisions may be necessary. With the incision recommended by Bevan, of Chicago, I have had no experience. It is based on sound anatomical principles, and is, I am confident, well suited for its purpose.

Having exposed the gall-bladder and made as careful an examination as possible (for thus far the operation is really only exploratory—we never know what we are going to find), we proceed.

If the gall-bladder is distended with fluid, we aspirate. Should pus be present, it will be best to suture the gall-bladder, unopened, to the abdominal wall, and after a couple of days, when adhesions have formed, open it and remove the stones. There is considerable danger in opening freely a gall-bladder containing pus. If pus is not present, I believe it best to open the gall-bladder at once, the surrounding parts being well

protected with gauze—and remove the stones. After this, carefully explore the ducts. This is best done by the touch—one or two fingers in the foramen of Winslow and the thumb in front.

It is impossible to pass a probe down the cystic duct, owing to the spiral fold of mucous membrane in its interior. A stone in the cystic duct may be forced upward, or it may be crushed with the fingers or with padded forceps. A large stone in the common duct may be cut down upon, or the duodenum may be opened and the stone gotten at from below. If the duct is opened sutures are then to be inserted—a very difficult matter owing to the depth of the parts from the surface. In this procedure Halsted's aluminum hammer inserted into the opening will aid materially in the manipulations. Suturing the common duct is one of the most difficult procedures.

After the stones have been removed from the gall-bladder, and while the deeper parts are being explored, I fill the cavity partly with sterile gauze, so as to prevent bile, which very likely is infectious, from escaping into the peritoneal cavity. What shall we do next? Shall we suture the incision in the gall-bladder (Bernay's "Ideal Cholecystotomy"), shall we remove the gall-bladder, or shall we suture it to the abdominal wall and establish a fistula? I prefer, in the majority of cases, to stitch the gall-bladder to the abdominal wall, though it prolongs the patient's convalescence materially. I do it for the following reasons:

The mucosa is presumably infected and it seems to me bad surgery to sew up such a gall-bladder (stitches may not hold). It is rational to drain such a gall-bladder. Besides, there may remain behind one or more stones, which, if the gall-bladder is left open will probably escape of themselves. You will say there is danger of the fistula remaining. Not so, if the suturing is properly done—that is, if the gall-bladder is stitched only to the peritoneum, transversalis fascia and deep muscular layers; if the gall-blad-

der is brought up flush with the skin and the stitches passed through it, then a fistula may remain. A gall-bladder which has been treated in this way often becomes obliterated.

Langenbuch makes a strong plea for the operation which he has devised, namely cholecystectomy. By the removal of the gall-bladder, the fons et origo mali is gotten rid of—and the patients get along perfectly well. I believe that cholecystectomy should only be done if the walls of the organ are much diseased, or if it is so shrunk and contracted around a stone that it cannot be brought into the wound.

If a stone, for some reason, cannot be removed from the common duct, and must be left, it is proper to do a cholecystoenterostomy, using the Murphy button to attach the gall-bladder to the small intestine.

A LITTLE TRICK IN NEEDLE THREADING.

The following little manipulation is easy of execution, useful, and practical, and will save both temper and nerves, says Dr. J. M. Jackson, (*Phila. Med. Journal.*) Let the needle (straight, curved, or cervix) be held with the ring and little fingers of the left hand, instead of with the thumb and the forefinger as usual, leaving the latter free to grasp the smallest bit of silk, etc., introduced through the eye, and pull it through. By the old method, when the silk was introduced into the eye and the needle changed from the left hand to the right, it invariably slipped.—(Med. Rev.—Internat. Jour. of Surg.)

A BONE-SETTING STORY.

A story of bone-setting is that of the Scotch laddie, Jock by name, who, after being carried by his mother, as an unwilling patient, to the bone man to get his leg set, was asked if the manipulation had hurt him. "No," said Jock, "it dinna hurt me."

"I told you it wadna be painful," said his mother.

"Ah," replied Jock, "nae wonder. You see, mither, I just let him fumble wi' tha sound leg!"—(Medical Press and Circular.)

INFLUENZA.

BY I. R. SCHOONMAKER, M. D., OF SAYRE.

[Read before the Potter County Medical Society, January, 1899.]

This subject, though apparently a simple one, yet contains much that is in doubt and uncertainty, for "there are more things in heaven and earth than are dreamed of in our philosophy," says one, and so in the subject of influenza there occur from time to time certain complications or rare types of this disease which baffle our best diagnosticians, and cause us all many an anxious hour. It is because of these peculiarities that the subject may not be as uninteresting as may at first appear, and while I to-day speak to many, who are many years my senior in the practice of medicine, I trust that I shall bring something new, or at least that the discussion will give a new impetus in the desire to add to our store-house of knowledge, such as will prove beneficial to ourselves and to our patients.

The history of influenza may be definitely traced to the 14th century and in America as early as 1655. The last epidemic, beginning in Bokhara, in May, 1889, spreading to St. Petersburg in October, Paris in November, England in October or November, and to America in November of the same year, reached its height in January and February, 1890, in widely distant localities. It seemed to be quiescent during the summer, breaking out in the late autumn and prevailing extensively until the spring of 1891. During the time from 1891, until this fall, there have been sporadic cases; the present epidemic beginning in the large cities on our seaboard has again spread widely, until nearly the whole country is infected. With this brief summary we turn our attention to the causation. For a long time it has been generally assumed that there must be a specific microbe, owing to the analogies between influenza and the infectious forms of ascertained microbic ori-

gin, but it was not until 1892, that Pfeiffer, of Berlin, discovered and cultivated a bacillus from the sputum of a patient ill of influenza, which were not present in any other disease. This bacillus occurs in abundance in the sputum, and is said to have distinct relation in number to the severity of the disease, disappearing with the cessation of the fever and cure of the morbid processes. The observations of Pfeiffer have been confirmed by others of renown in the science of bacteriology, and in no genuine cases of influenza have they failed to find this microbe.

While we admit the microbic origin of this disease, we are not the less at a loss to explain the simultaneous appearance at widely distant points and rapid spread throughout large communities.

Professor Pepper says, that while under ordinary circumstances we may have occasional sporadic cases, yet under special atmospheric or telluric conditions, it acquires a degree of virulence that renders all subject to its attacks. He also asserts that it is clearly communicated by contagion, the specific poison carried by fomites and that there are instances where it seems to have been conveyed by the corpse of a patient who died of influenza.

It is not yet shown that water or milk conveys it, but that it seems to be by inspired air laden with the microbes, and that at a period preceding these outbreaks there may have been scattered cases, which having received little or no attention, the seeds of the disease have been gradually distributed so that when the conditions favorable for its development arise there is already a wide-spread preparation. The bacillus of influenza is a short organism about half the length of the bacillus of mouse-septicæmia and nearly the same thickness as the latter. It stains with difficulty, but when stained by Ziehl's carbol-fuchsin, it consists of two bulbous ends joined by a narrower and less intensely staining central shaft. It has been cultivated in agar containing a small per

cent. of sugar. It grows scantily in bouillon which remains clear. It cannot be cultivated in gelatine, as it requires temperatures which liquefy gelatine. It does not occur in chains, like the pneumo-bacterium, and is not surrounded by a capsule; hence, to say that pneumonia is caused by the same specific microbe, is not tenable. There may, however, be present in the same patient, the bacillus of each disease, and patches of broncho-pneumonia may co-exist.

There is no characteristic anatomical lesion in influenza. If death occurs, from the intensity of the fever or from debility, catarrhal inflammation is found in the respiratory and digestive mucous membranes, with the ordinary changes of congestion and swelling. Few autopsies have been made of cases complicated with cerebro-spinal-meningitis, but it can scarcely be doubted that this lesion is present in not a few cases. Perineuritis is also of common occurrence.

The phenomena of influenza are so varied that it is difficult to present a sketch of its symptoms. The main features of a majority of cases, are sudden onset with more or less chill, followed by fever coming on quickly, pursuing an irregular course of from 4 to 7 days' duration, terminating by crisis. Naso-pharyngeal and bronchial catarrh, sneezing, coughing, headache, pain in back, trunk and limbs, general soreness of muscles as though bruised, depression, great malaise and restlessness, general and cardiac debility, slight enlargement of spleen. In all epidemics there are cases of mild types, but in spite of the apparent mildness of the attack the temperature may be considerably elevated, and sudden development of grave or rapidly fatal complications may ensue. Sometimes the outbreak is uniformly grave, and cases bear but little resemblance to the common conception of influenza showing hyperpyrexia, alarming prostration or early developing dangerous pulmonary, nervous or gastro-intestinal lesions, or profound blood dyscrasia from

the intensity of the poison. While affecting in the majority of cases the respiratory tract, there are others in which it appears as an acute gastro-intestinal catarrh, or in others the cerebro-spinal features are most prominent. Again, there may be a blending of these various phenomena. This is most notable in those, where the nervous element predominates, and many observers localize the infectious processes essentially in the cerebro-spinal axis, and the widespread functional disturbances, or serious lesions of other organs, as secondary results of impaired nervous action. Metastasis has been reported by Dr. R. S. Harnden, of Waverly, N. Y.

His patient first sickened with ordinary catarrhal influenza of the nasal passages and throat; these symptoms subsided to appear in stomach and bowels, with vomiting, diarrhoea, and some jaundice; these in turn began to subside, when acute cystitis occurred. When apparently on the road to recovery, the patient was taken with chill, followed by recurrence of catarrhal symptoms of nose and throat, again followed the stomach, bowels and bladder symptoms in regular order, upon subsidence of previous severe symptoms of each organ involved. Recovery was complete, but necessarily slow.

In the thoracic form catarrhal symptoms are prominent; coryza, marked cough, (severe and painful), and referred to the sub-sternal region, together with sharp, myalgic pains about the chest; sputa scanty and tenacious. The physical signs are irregularly distributed rales, fine and coarse, in most part changing their location and quality rapidly. If crepitant rales are heard there is either pneumonia or phthisis. The respiratory murmur is feeble, the pulse respiration ratio not changed materially unless complications ensue. The tongue is coated yellow, but is moist, appetite impaired, some nausea and thirst. Bowels are quiet, abdomen normal. Headache is prominent and insomnia may be present. There is a sense

of profound weakness and debility, and the remark is often heard that "they are weak in the knees," the least exertion causing rapid breathing and heart action. Profuse sweats are found frequently and may continue to be very troublesome. Diarrhoea may occur and the chest symptoms subside, and convalescence ensues, but a strong tendency to recurrence of catarrhal irritation remains, and here if pneumonia complicates we find it showing itself in a large number of cases, although it may be present from the onset.

The gastro-intestinal form may be moderate or severe, consisting of nausea, vomiting, anorexia, fullness and tenderness of the epigastrium, with some distension of the abdomen and looseness of the bowels, with fever averaging $102-3^{\circ}$. Again it may begin with violence, indicating intense irritation of the mucous membrane and marked disturbance of the splanchnic system.

The nervous or cerebro-spinal variety may be primary, but more often develops in cases of the other forms, the headache being of an agonizing nature, sight and hearing morbidly acute, intense pain in back and legs, marked delirium, with increased tendency to stupor.

Illustrative of this is the case of M. S. K., aged 40, whose illness began with chills, followed by temperature of evening, 104° , and morning of 102° . Intense pain in head; eyes deeply congested, with intolerance of light; some tinnitus-aurium and increase of hearing, so marked that he said he could even hear very low conversation held three rooms away from his bed, (this was almost in a whisper), and told his family that they might as well speak in ordinary tones as he could hear everything. This continued with varying temperature from 101° to 103° , for nearly ten days, when there was a gradual return to normal condition. No spinal or cerebral after-effects, except slight tenderness in cervical region.

Rigidity of the muscles of the neck, and retraction of the head may be present, gen-

eral convulsions may occur in both adults and children, although none have occurred in adults in my practice. The temperature may be high, especially in children, but it may fall below normal, with a slow, irregular pulse, and breathing as in an elderly man who died from all the symptoms of cerebral inflammation with stupor and coma. In all these forms we occasionally find epistaxis, which with us has been quite frequent in the present epidemic. There are no characteristic eruptions as in dengue, but urticaria is not uncommon. These various types may be present in a single family all at one time, and any one may be contracted from those suffering from another type, and the symptoms of one form become associated with fully developed features of another, as the case assumes additional gravity. I have related at length the various symptoms, not because you are not aware of them in their manifold phases, but in order to impress upon all the fact that simple cases ought not to be passed by with slight attention, for from them may develop serious, if not grave sequelæ, or one form simple in character may be rendered exceedingly grave in the next one of a family afflicted with this disease.

I will next consider some complications, the most prominent of which are connected with the respiratory organs. As already intimated, bronchial catarrh is among the usual symptoms, and severe bronchitis is not infrequent; and capillary bronchitis with œdema of the lungs and a low form of delirium and fever, is found in old or feeble subjects. Pneumonia of both forms, catarrhal and croupous, is a frequent and fatal complication, says Prof. Pepper, and our experience bears him out in the assertion. In the present epidemic this has been marked. Beginning as one of severe infectious fever, with dyspnoea, in excess of any apparent cause, in two or three days the physical signs of pneumonia are manifested, and though the area is extensive, the cough is trifling in some cases and ex-

pectoration slight, while in others there is considerable cough, with excessive expectoration; one such case of mine recently would raise a pint or more in 12 hours. Children and aged or infirm subjects, or those debilitated by drink, or other causes, are especially liable to this form. The readiness with which violent pneumonia may be induced by slight exposure, even in mild cases, among vigorous adults, was remarkably shown in a case in my practice this winter, as follows:

Charles, C., aged 21, was at first apparently a case of typhoid fever; beginning, however, with a temperature which was scarcely typical. In other respects there were tympanites, tenderness in right iliac region, looseness of bowels, a few spots, dry coated tongue with red tip, slight cough. The temperature was from 101° in morning to 104° in evening. The 10th day of treatment, or about 14th of the disease, he was apparently improving, when suddenly, after changing his bed from one room to another, he was taken with severe chills, followed by temperature of 105° , dyspnoea, profuse perspiration, lungs full of mucus, and died 14 hours after. Question: Was it typhoid fever, or influenza, complicated by pneumonia?

Prof. Pepper relates one in the epidemic of 1892, in a young man of 30, who had influenza in so mild a form as not even to consult a physician; on the fourth day, feeling much better, he walked about 200 yards in a raw evening air and within an hour was taken with a severe chill and temperature of 105° , with vomiting of blood, involvement of left lower lobe, spreading rapidly to base of right lung, accompanied by nephritis, jaundice and delirium, and ending in death.

In 35,413 cases of influenza in Philadelphia, under 272 physicians, pneumonia occurred in 1,485 cases, or about 4%, with a mortality of 11.65%. Dr. Latta, chief medical examiner of the Penna. R. R. Volunteer Relief Dep't, in 1890-91, reported 6,680

cases, with 138 cases of pneumonia, or 2%, and a mortality of 20%, thus showing the severity of the pneumonia process.

In these instances my belief is that the pneumonia is not per se the immediate result of the influenza, but is induced by the special state of the atmospheric or telluric influence exerted upon all alike, and especially rendered severe or fatal by being conjoined with influenza and its debilitating effects. Showing no specific relation, each having its own distinct bacterium acting in the same subject at the same time. Plastic pleurisy and empyema may occur as a complication, as may also purulent pericarditis. Abscess and gangrene of the lungs are rare sequels. Pulmonary phthisis has been noted as a sequel, and should influenza attack those effected with phthisis, the mortality is high. Here let me digress to say that if crepitant rales are heard you may be sure there is either pneumonia or phthisis. The mortality is high in cases with Bright's disease. Severe gastro-intestinal catarrh with bilious vomiting and purging has been reported by several, assuming a chronic character, with grave impairment of nutrition, proving rebellious to treatment. Aural complications have been reported by Dr. Eagleton, with hemorrhagic osteitis, primary mastoiditis or peri-osteitis before the involvement of the middle ear, due apparently to direct infection by the bacillus and not to extension from the naso-pharynx. Also rapid caries and necrosis of the ossicles or mastoid was observed.

Cerebro-spinal meningitis occurs as an occasional complication, either running an acute course terminating fatally, or they may be less violent, going on to gradual recovery, or in others, to the development of all the symptoms of exudation, with fatal pressure. Some cases of abscess of the brain were reported by Bristow, in the epidemic of 1891. Persistent headaches, insomnia and neuralgia are common sequels, as well as melancholia, impairment of mental power, and even mania, becoming neces-

sary to confine the patients to asylums. Perineuritis is another frequent complication and sequel, involving the nerves of special sense, and no doubt involving even the branches of the pneumogastric, which, as some think, explains somewhat some of the grave pulmonary and gastric conditions which arise. Enlargement of the cervical glands is not infrequent and these may end in suppuration.

Prognosis: In cases uncomplicated the mortality of the ordinary types of influenza is very small, less than $\frac{1}{2}$ of 1%, says Pepper.

Treatment: Prevention cannot be in the strict sense. Fatigue and excesses of all kinds predispose to the contraction of influenza. Any exposure which induces catarrh almost insures the infection. Avoidance of damp, draughts, sudden checking of perspiration, should be observed. The indications point to rest in bed with even temperature in the room. Support of the system, relief of suffering, securing of sleep, allaying of cough and controlling of fever. My method is to give six to ten grains of calomel in $\frac{1}{2}$ grain doses, every two hours, until bowels move, followed by a seidlitz powder or salts. Should there be considerable fever, with frontal or occipital pain, I use a tablet, each containing the following, viz.: Acetanilid $2\frac{1}{2}$ grs., camphor monobromate $\frac{1}{2}$ gr., sodium salicylate 1 gr., ext. hyoscyamus $\frac{1}{8}$ gr., tinct. gelsemium 2 minims. Sig.— Two tablets for the first dose, and one every two or three hours until pain and fever moderate, then give strychnine tablets, 1-60 gr. each, one every 3 hours, or if quinine is well borne, give 2 grs. every 4 hours. I find gelsemium a most excellent remedy, especially in children with restlessness and cerebral symptoms.

Codeine in syr. prunus virginiana and syr. tolu, or, better still, the syr. of lactucarium, you will find proves very efficient.

In the gastro-intestinal forms I use bismuth, salol and cocaine, or bismuth with carboic acid, or if there is much pain, a chlorodyne tablet every four hours until

pain and diarrhoea is relieved. In cases with pulmonary symptoms, counter irritation by mustard, followed by a cotton jacket enveloping the chest; strychnine in full doses either with or without quinine. Pepper recommends in severe cases hypodermic injections of morphine 1-12 gr., strychn. 1-24 gr., used several times a day. For the severe lumbar pain, and pain in legs or chest, I like a liniment of tinct. aconite, fl. ext. belladonnæ, tinct. opii, chloroform, each $\text{f}\bar{\text{ss}}$ i, camphor gum powdered 3 iv, with warm water bags or warm flannels around the painful areas. Hot foot baths are useful for the same purpose. Great care should be exercised during convalescence, and often the physician needs to insist upon every detail of personal hygiene. Nutritious diet, careful avoidance of bodily or mental exertion, undue exposure, combined with continued use of tonics, possibly a change of air or scene with avoidance of re-infection if possible. These, if carried out, will bring returning health, although frequently we find cases very persistent. It is important in cases suffering from depression that they be not exposed to the danger of re-infection as a second attack under these circumstances is apt to prove very serious, says Prof. Pepper in his article on influenza. Gentlemen, it has given me great pleasure to meet with you. I thank you for the attention given this abstract, and trust I have not wearied you, or caused any to slumber. If I have presented anything that has cleared the horizon, removing the clouds from the sun and letting in even a ray of light, my mission has not been in vain.

CONNECTICUT'S MEDICAL LAW.

The three medical examining boards agree that 75 per cent. of all questions must be answered correctly. This year 40 per cent. of the candidates failed to pass.—(West. Med. Rev.)

Pruritus ani is often promptly relieved by the application of an ointment of calomel, 80 grains to an ounce of vaseline. For pruritus vulvæ this is also efficient.

ABORTION.

BY JOHN M. BERTOLET, M. D., OF READING,
Member of the Berks County Medical Society, the
Pennsylvania State Medical Association, the
American Medical Association and
the Reading Medical Association.

[Read before the Berks County Medical Society.]

Abortion is, according to the various authorities, "The expulsion of the product of conception before the fetus is viable." Miscarriage is usually applied to an abortion after three months.

That abortions are becoming more numerous every day, must be apparent to every practicing physician. Their causes are so varied that it is really amusing and at the same time very provoking to the attending physician. This peculiar state of affairs seems to multiply during house-cleaning time, one woman claiming that she was hanging curtains, another lifting heavily, while others have numerous and plausible excuses for their condition.

The methods which many women employ themselves have often been a wonder to me that they survived the operation; some using hat-pins, some crochet needles, lead pencils, pointed pieces of wood, and a case to which I was called recently, the woman had inserted the nozzle of a Davidson's syringe and flushed her womb with a quantity of hot water and in this way got rid of a three months' pregnancy. When I saw the case she was in a pretty bad condition, having a temperature of 104° F. and a weak and rapid pulse, with profuse hemorrhage.

These abortions are not always self-inflicted; old women and others having frequently a hand in the matter, and fight the cases along until finally a physician is sent for to carry the case through.

There are also certain physicians in our city, I am told, who make a specialty of the dastardly work or business of committing abortions for a consideration, and

seem to thrive in their illegitimate practice. That these things can be carried on without being noticed, is deplorable. It is bad enough if the act must be committed in order to save the life of the mother, but when carried on exclusively for monetary reasons, it should be condemned in the strongest language. It is unfortunate, however, that physicians are often misled by shrewd women, to pass instruments in diagnosing womb troubles and denying in the most strenuous terms that they are pregnant; of course they will know when once a sound has been passed, that an abortion is inevitable.

I once attended a lecture given in the University of Pennsylvania by the late Dr. Goodell in which he gave his experiences in this manner:—A patient was brought before the class, covered with a white sheet, and when Professor Goodell had concluded some remarks on the subject he had the woman placed in position for examination. While this was going on, Dr. Goodell happened to look under the sheet and at once recognized the patient as having been before the clinic about a year before. He simply made a digital examination and ordered the woman's removal. After she was taken out he said that this same woman fooled him once, but this time he was going to fool her. He said it was simply impossible to tell a pregnancy in its early stages and that this woman had been shrewd enough to know this, and he, having passed a sound for diagnostic purposes, she aborted in a few days. He concluded that this woman was there for the same purpose the second time.

Professor Goodell took occasion then to tell the students that they could not be too careful in making examinations and could be easily misled by shrewd women, who seem to be equal to the occasion.

Of course in such cases the physician is placed in a very dangerous position. It would be a good idea for every physician, especially those who make a specialty of

diseases of women, to employ trained nurses in their offices, and have them hear the conversation and see the patient's treatment, in order to protect themselves. There is a set of women, who are constantly bent on making trouble for the doctor and if they can, fleece him out of money and ruin his reputation and practice. The case against one of Philadelphia's most prominent physicians, some years ago, in which he was fleeced out of fifteen thousand dollars, is a fair example of what may happen. The rights of women in such matters is entirely too one-sided and offers too much protection in one direction only. This is of course a little digression from our subject but can be mentioned as a good pointer for all to observe.

Now as to the matter of treating these abortions. I have not the least doubt, but that nine-tenths of the ovarian diseases in our day are due to abortions, many of which have been improperly treated.

Before treatment, however, we may mention some of the causes of abortion outside of those mentioned above, as due to chronic endometritis and metritis, cellulitis, disease of the tubes or ovaries, lacerated cervix and especially syphilis.

The treatment of threatened abortion, should be by perfect quiet and rest and such drugs that will diminish nervousness and weaken muscular contraction. The latter seems to be controlled best by opium, bromide of potassium and chloral. Opium must, however, be given in large doses, as women about to abort seem to display a tolerance for this drug. Suppositories is probably the best method of administration. *Viburnum prunifolium* seems to be a specific in some cases.

In inevitable abortion, the best plan is to empty the uterus as quickly as possible, as delay is positively dangerous. The method of removing the contents of the uterus with the finger, is in my opinion, in many cases, impractical, for the reason that it is too painful, and the finger is too short an in-

strument to accomplish this, especially in corpulent women, and to attempt it without an anæsthetic would frequently unnerve the patient. The best method is to dilate, when indicated, and extract the fœtus or its remains. Hemorrhage must of course be controlled, as may be necessary, by packing, tamponing, etc., and the administration of ergot in drachm doses, every four hours, after the uterus has been emptied, and enjoining rest in bed for several days, together with tonics, such as quinine, iron and strychnine; Bland's mass, with extract of *nux vomica*, are among the best. The bowels must be carefully watched, so that they are at all times free.

The treatment of cases in which an abortion has been prolonged and in such cases in which the advice of a physician is invoked, is more radical. The practice of some physicians is to wait, while life seems to be ebbing away, profuse hemorrhages and septicæmia playing havoc. They make no examinations on account of the nauseating smell which in such cases is certainly sickening. But why wait any longer and endanger the life of the patient and risk the irreparable damages likely to follow any degree of delay and procrastination?

The uterus and the condition of the patient is now such, that not enough vitality is left for nature to perform the work of freeing them of the foreign and poisonous mass; and radical measures only are left to be invoked. As a prominent professor once said in lecturing to the class in surgery, "Nothing is too menial for a physician to do, provided he does not do it in a menial way." And I have often thought how true this expression is. I was told some time ago that a prominent doctor who was attending a lady, who knew she was suffering from some womb trouble, being asked if he did not think an examination should be made, replied that such things were so distasteful to him. This doctor was at once dismissed for his squeamishness.

Is it any wonder that our patients be-

come disgusted with such treatment? We are here as benefactors to our race in a certain sense, and we should show our manliness in our profession and do what we can to relieve poor, suffering humanity.

This little digression will bring me to the final treatment of the last named cases: My plan is to at once dilate the uterus, if it is not already so, and with a douche curette begin emptying the uterine body of its offending contents, using a bichloride of mercury solution of one to eight or ten thousand. This usually lowers a temperature of 104 F. to nearly normal within a few hours. After curetting and flushing the intra-uterine cavity with a gallon of the above solution, it should be packed thoroughly with antiseptic gauze, cut about an inch in width. This is allowed to remain for about twenty-four hours, then removed, and usually the result is all that can be desired. Delay in these cases I am sure is the cause, as I have already stated, of the majority of uterine troubles, that can all be avoided by prompt action.

DISCUSSION.

Dr. James W. Keiser: Dr. Bertolet's paper is practical, and I think, on the whole, his conclusions are correct. His experience as to the cause of abortion is different from mine. In all my cases the only admitted cause has been a fall or heavy lifting. As a matter of course, the true cause in many of these cases was designedly concealed from me.

Where the abortion is inevitable, the indications for treatment, I think, do not admit of much dispute. When the flooding is great I always resort to a tampon, and then the os speedily dilates and the placenta, as a rule, can be hooked out with the index finger. A short time ago I was called in consultation to a case where the hemorrhage was alarming, and I was able almost instantly to hook out the placenta with my finger, perhaps because my finger was longer than that of the attending physician; the placenta being removed, the hemorrhage ceased. If the placenta cannot be removed with the finger without much effort, it is better to use the speculum and forceps, as this procedure is less painful to the woman.

In those cases where the discharges are offensive there can be no question as to the importance of removing the placenta without any further delay. On account of the dangers of septicæmia it

would be almost criminal to wait until it is discharged spontaneously. Only yesterday I was present at a case where a woman suffered severe pains and had occasional hemorrhages for ten days, and the discharges were very offensive. The attending physician opposed any instrumental interference. The consulting physician favored it, and I throwing the weight of my influence on the side of the consultant, we overruled him. With very little difficulty the placenta was removed, and we both left, leaving the case to the attending physician. I have no doubt but that this case will speedily convalesce.

Dr. Henry Landis: Where an abortion has become "inevitable," as evidenced by uncontrollable flooding, or by a putrid discharge, I produce gradual dilatation by means of a sponge or sea-tangle tent, in preference to forcible dilatation by Goodell's dilator or other metallic instrument. The tent is to be supported in situ by a sterile and well-adjusted vaginal tampon. I believe that a gradual dilatation if the os is better adapted to incite the expulsive efforts of nature than the rapid and forcible dilatation under an anæsthetic. The tent process has the advantage over the forcible, of not appearing as formidable to the patient; of not incurring the risks of anæsthesia and of not producing traumatism to the os and cervix. If the tent be well sterilized and renewed every six hours, there is no greater danger of septic infection from it than from the tampon, which latter is recommended, by Dr. T. Gaillard Thomas, as the sheet anchor during the first three or four days, or expectant period, of the treatment of an abortion. It is remarkable to what extent a sponge tent will dilate the os and cervix in three or four hours. And again, if this gradual dilatation does not incite spontaneous expulsion, the vectis or curette can be used just as well then as after forcible dilatation. I here exhibit to you an instrument called a placental hook, which has served me well in those unavoidable cases where the ovum needed assistance in its exit. You will observe that it is a simple little steel instrument about eight inches in length, having a fenestrated scoop at each end, one scoop being a little larger than the other. This scoop being introduced into the uterus, and the instrument rotated, will effectually detach the placenta, and greatly assist the operator in removing both it and the foetus.

Dr. M. LeRoy Wenger: I think some of the speakers have not properly understood the reader of the paper. He does not advocate operative measures unless the case is one of inevitable miscarriage. He distinctly uses the word "inevitable." In this he certainly follows the latest and best method.

The dangers accompanying miscarriage are two-

fold, the one from hemorrhage and the other from sepsis. When the ovum and its membranes are entirely removed as in curettage, the danger from hemorrhage is nil. When this is done there will also be removed the most usual cause for sepsis. Then why should we hesitate to operate? As the reader says, "It is remarkable how the abnormal temperature will drop in septic cases after this procedure." I also agree with some of the gentlemen that the introduction of instruments into the uterus does not always produce an abortion. I recall a case in my own practice where a hooked wire had been pulled into the uterine tissues and could only be removed after dilatation, and abortion did not follow.

Dr. John M. Bertollet: In closing the discussion little remains to be said, but replying to Dr. Cleaver, I would say that much trouble is caused by procrastination in cases in which the womb is lying in casting off the products of conception, which have become purulent. There are now two cases in the Reading Hospital which were operated on for double pyosalpinx, both the result of miscarriage. In one of these cases the woman was confined to bed for several months, was under the care of several physicians, who did not even make an examination. The case drifted to me, and I at once recommended an operation as the only relief. The other case was not allowed to suffer so long; an operation confirmed the diagnosis of double pus tubes. The doctor claims to have had possibly fifty cases of abortion or miscarriage during his forty years' practice. I can safely say that I have had nearly as many during my short career, and my method is, in threatening abortion, to at once dilate and curette the womb in order to avert septic infection, which is nearly always on a fair way by the time the doctor is sent for. I think it is perfect nonsense to wait until your patient is nigh exhausted and then try to save her life. "Do something," as a prominent physician once said, "that is why the people send for the doctor." There is little danger of doing any damage by dilating and curetting, for the simple reason that nearly all the congested mucous membrane is in such a condition as to readily absorb septic material. There is not the least doubt but that these abortions are increasing, because women seem to book themselves in this particular direction, and many know better how to get rid of the products of conception than some physicians possibly could, if they wanted to.

The use of sponge tents, as suggested by Dr. Landis, is a back number. They are condemned by every teacher of medicine in these days; they would only furnish more ground for infection. Dilating and curetting I consider absolutely safe when properly and thoroughly done. In my opin-

ion not half the number of ovarian diseases would happen if cases of miscarriages were properly treated.

The cases to which I referred in my paper, and discussed by Dr. Wenger, are those of inevitable abortion only, and not in any case of threatened abortion: in the latter every means should be employed to prevent it.

THE INJURIOUS EFFECTS OF FORCED AND UNNATURAL BREATHING UPON VOICE PRODUCTION, AS AN ART, AND UPON THE HEALTH OF THE INDIVIDUAL.

BY CARL SEILER, M. D., OF SCRANTON, PA.

Man, in his arrogance, which prompts him to proclaim himself the lord of creation, deviates more and more from nature in his progress of civilization, and the more civilized he becomes, the more artificial he is, and the further removed from what nature intended him to be. But nature resents and punishes sooner or later any interference with or non-observance of her unfringeable laws; as every student of nature, every philosopher ancient, mediæval, or modern, knows and proclaims, and therefore, whatever is artificial, whatever is strained and sought for to produce an artificial effect is unnatural, and as such, harmful to the individual, as well, as contrary to art, which is nothing but the idealization of nature, if such an expression is allowable, and consequently the dire results, in our branch of art, of man's really inferior but egotistically superior knowledge, show themselves in the cracked voices we hear in concerts and churches, and in the pale emaciated forms, barely hidden by the flowing draperies of the Grecian toga of our modern devotees to Delsartism.

Man, gifted with articulate speech, the only distinction from, and sign of superiority over the rest of the animal creation, has this gift of nature common to all peoples, derived in its primitive form from nature, from nature's teachings in the shape of natural noises and sounds, and beautiful in

the idealization of those very natural noises.

This gift, articulate speech, consists in the expression (of man to man) of thoughts, ideas, desires, and emotions. And as such the mere imitations of natural noises and sounds, without idealization of their realism, would not and could not express abstract ideas, and heartfelt emotions, nor could it impress with and call forth similar or identical mind pictures.

The mind of the auditor is impressed by the musical flow of language, the rhythmical melody of speech, and by the uninterrupted sequence of ideas, all of which in harmony produce a sensation of satisfaction and call forth his higher emotions. For this reason rhetoric is counted as one of the highest branches of fine art.

As there are in all other branches of fine art certain fundamental principles more or less scientific, and also ethical as well as conventional rules, which form the basis upon which the artistic production rests, and which should be thoroughly understood and correctly applied by the artist, as also are there scientific, ethical and conventional laws governing the art of rhetoric or voice production.

Voice production in speech or song is the result of the combined co-ordinate action of a number of different organs. Without going into unnecessary and tedious details of descriptive anatomy, I may liken the human voice to any of the wind instruments, say a church organ. There we have first the bellows with its wind chest filled with air, by the action of an engine or a man, representing the lungs and wind pipe with the muscles of respiration.

Then we have the pipes arranged in stops or registers, which speak when the valves from the wind chest are opened, and the tongues are made to vibrate by the air current. This portion of the instrument is represented in the human body by the larynx with its vibrating vocal cords. The different sets of pipes changing the quality of the sound in the organ are represented by the

action of the muscles of the larynx, pharynx and mouth stretching the vocal cords, changing the size and shape of the pharyngeal and oral cavities, thus producing by resonance the change of timbre of the voice.

The organist who pulls the stops, depresses the keys and treads the pedals actuating the valves, and thus produces melody and harmony, is represented by the mind, and the memory of sound. He may be blind and know nothing of the mechanism nor of the different functions of the parts of the instrument, but can still produce harmony and melody; but let him be deaf from childhood, not having the memory of sound, and he cannot play the organ. So the mind, without knowledge of the names or actions of the muscles, but endowed with the memory of sound, can and does, naturally and easily set in motion the different parts of the vocal organs and thus produce song and speech.

Thus it is seen that the three factors so operating in voice production are, in the first place the mind of the singer or speaker. Secondly, the larynx with its tone producing and vibrating vocal cords in connection with the resonant cavities of the trachea, the pharynx, the mouth, and the nasal cavities, and finally the lungs with the mechanisms complex in their action as the steam engine or the water motor for producing the air pressure necessary.

Space forbids to enter into a detailed description of the voice producing parts and their anatomy, nor is it necessary, as that branch of knowledge has been so assiduously studied for years by all who devote themselves to vocal culture. But a few words explaining the influence exercised upon the voice by the resonant cavities and a short explanation of the physical acoustic laws governing this influence will not be, I trust, out of place, before we enter into the details of the subject proper, as indicated by the title of this paper.

We all know, since the great Helmholtz pointed out the facts, that the mere vibra-

tory motion of any vibrating substance, although it may transmit its motion to the outer air and thus produce sound waves, cannot and does not impress the sense of hearing with the sensation of a sound loud enough so that the quality of this sound can be appreciated. Only when a large amount of air is set into undulatory motion synchronously do we hear the sound as such, and are able to appreciate its quality, provided that the vibrations are not less than 16 and $\frac{1}{2}$ and not more than 40,000 per second.

In voice production the vibration of the vocal cords is communicated *directly* to the air contained in the cavities of the trachea, pharynx, and mouth, and indirectly to the air contained in the nasal cavities. In this manner a large amount of air is set in vibrations, a large sound wave is produced, and the ear of the hearer is impressed with the loudness of the sound. The quality of this sound depends, as is well known, upon the peculiar conformation of these cavities together with the individual facility of action of the muscles of the larynx itself, aided by the *indirect* resonance of the nasal cavities. If these sound waves are irregular and non-periodic, the result of their impression upon the ear is that of noise, while the more regular and rounded the waves are, the more musical is the sound we hear. In voice production, as in other wind instruments, not only the individual quality and loudness of the sound are produced by the action of the resonant cavities in connection with the vibrating vocal cords or reeds or lips but also the roundness and beauty of the tone itself.

This musical quality, as distinguished from noise, is due to the perfect attuning of the resonant cavities to the sound produced by the vibrating portion of the instrument and consequently the more perfectly the pitch of these cavities is adjusted, to be in harmony, with the pitch of the reed or cords, the more musical is the sound; and the greater the discrepancy between the

two, the nearer will the sound approach towards the sensation of noise and the harsher the tone.

Anything, therefore, in voice production which materially interferes with the perfect co-operation of the different parts of the vocal apparatus, will cause a diminution in the loudness of the vocal sound, and in its musical qualities. This attuning of the resonant cavities is produced by the action of the different muscles in decreasing or increasing the capacity, as well as by changing the opening of the mouth through which the sound waves produced within these cavities, are communicated, to the outer air. These sound waves within the resonant cavities are what are termed "stationary waves." And in consequence, the whole volume of air becomes a self-sounding body, just as a vibrating string, or as the air contained in a drum. In the latter case the stationary vibrations are produced by the non-musical tap of a stick. From the above short resume of the principal acoustic laws bearing upon voice production, the art of singing and speaking resolves itself into two very simple but fundamental principles, namely, first, the perfect attuning of the resonant cavities to the pitch of the vibrating vocal cords, so that they both together become a self-sounding instrument, and second, the absolute avoidance of any disturbing factors which might in a greater or less degree interfere with the stationary vibrations of air in the resonant cavities, and thus prevent the air in them from becoming self-sounding. The first one of these principles comes natural to a certain degree to every one particularly in articulation, but in pure vocalization it must be educated to obtain the best results of voice production, and in this education and cultivation of the muscles which change the lumen of the resonant cavities, and the opening of the mouth in order to produce a quick and perfect attuning of these cavities to the pitch of the vibrating cords, consists the art of vocal culture.

The second proposition, namely, the avoidance of a disturbing element, consists in the regulation of the air current necessary to set the vocal cords into sonorous vibrations *without* surplus of pressure, so that no air current will disturb or interfere with the stationary vibration in the resonant cavities.

Every one who has ever watched a sleeping child, must know by experience that the act of respiration is essentially an automatic one, and not necessarily under the control of the will; if such were the case, the child would die for want of breath because will power is suspended during sleep. In the same way, every one who is a close observer of his own sensations, knows that position of the body greatly influences the facility of breathing, and unconsciously we assume *such* positions in waking or in sleep, which will give the greatest freedom of motion to the respiratory muscles.

For our purpose, however, it is necessary to examine the action of these respiratory muscles in respiration a little more closely than is generally done; in order to substantiate the assertion in the title of this paper that "forced" and therefore unnatural breathing is deleterious not only to the art of vocalization, but also to the health of the individual.

All physiologists agree that the process of respiration is a purely mechanical one, and consists in the *active* expiration and *passive* inspiration, that is to say, the contraction of the muscles between the ribs draws the chest walls together and together with the relaxation of the diaphragm, diminishes the size of the chest cavity from below, and in doing so the lungs are pressed upon, like a rubber ball is pressed by the hand, thus expelling the air contained within; while the relaxation of these same muscles and the contraction of the diaphragm increases the size of the chest cavity, thereby producing a partial vacuum within the lungs, into which the atmospheric pressure forces the air to fill *up* the vacant space,

and this we call inspiration. The inherent contractility of the lung tissue itself aids in the expulsion of the air in expiration, and the action of the smaller internal, intercostal muscles by elevating and rotating the ribs upward and outward *facilitate* the rapid expansion of the chest, so also is the diaphragm pushed back into its relaxed condition by the release of pressure upon the abdominal organs below. This counter-acting of the different muscles in respiration is the one factor which enables us by the will power to regulate the rapidity with which the air current rushes into the lungs, or is forced out from them, and also enables us together with the aid of the vocal cords in regulating the amount of air pressure necessary for voice production, both in speaking and in singing. It will thus be seen without going into further details that a co-ordinate action of *all* these muscles is necessary in breathing during voice production, and that any one set of muscles alone employed, *wilfully*, must necessarily be fatiguing, and thus injurious. We all know, for instance, that stammering is nothing but a want of co-ordinate action of the muscles of respiration, themselves, and, also, in connection with the muscles of articulation. Is a muscle of respiration, such as the diaphragm, alone employed for the purpose of filling the lungs with air and producing the expiratory air current in the measured and rhythmical flow necessary for singing and speaking, without the aid of the inhibitory action of the intercostal muscles, its work must necessarily be very much greater than normal, and the organs of the abdomen below the diaphragm are pressed upon so forcibly that particularly in woman, this repeated downward pressure gives but too often rise to displacement and consequent chronic disease of her pelvic organs.

And further, any one muscle alone, although it may be able to do the work of its fellows, when thus employed soon becomes fatigued and what is called in science, the muscular sense, by which we are able

to regulate automatically or by will power the *amount* of contraction and relaxation becomes greatly lessened. Therefore, if the diaphragm alone is employed for breathing, neither the rapidity of the respiratory movements nor the air pressure can be regulated for any length of time with that amount of nicety and delicacy which is so necessary in vocalization, for, as I have already pointed out, too much pressure destroys the stationary waves in the resonant cavities, and thereby lessens the quality and volume of the vocal sound; while not enough pressure prevents the distinctness of utterance of consonants. As the taking of breath in reading is the counterpart or punctuation in writing, and as sentences are not of equal length, the breath must be regulated in such a manner that the audience is not disturbed by gasps.

If a nicety of the manipulation of the breath were not possible, how, I ask, could any one read intelligently and impressively such sentences as I have intentionally made use of in the introductory part of this paper? Fatigue of any portion of the body produced by inordinate muscular effort has its influence upon the mind and through the latter upon the rest of the body, so that, fatiguing of the diaphragm, if often repeated, will produce disease in the larynx, as all laryngologists well know.

Gestures are the natural and automatic means of emphasizing speech, and as such, being chiefly executed by the arms and hands, perform a secondary but not less important part in elocution by aiding the respiratory muscles of the chest by their motion alone and all the respiratory muscles by obtaining ease of position for the body and thus freedom of respiration. Unnatural and therefore studied gesticulation, studied with a view to illustrate the meaning of the spoken words, in most instances defeats its object and interferes rather than aids respiration, and in doing so is again harmful to the individual. By its evident effort for effect it becomes frequently ludicrous, and thus is injurious to our art, as such.

Aristotle says that the art of delivery, whenever it is reduced to method, "will perform the function of the actor's art," adding that the dramatic faculty (gesture) is less a matter of art than of nature. For is not he acknowledged the best actor who does not *appear* to act on the stage?

PLACENTA PRÆVIA, WITH REPORT OF CASES.

By J. A. PATTERSON, M. D., OF WASHINGTON.

[Read before the Washington County Medical Society, November 15, 1898.]

Mr. President: At our annual meeting one year ago I read a paper describing my experience with an unusual number of cases of that terrible disease, puerperal eclampsia. Since then I have seen no case of that kind, but have been severely tried with that other dreaded terror of the puerperal state, placenta prævia.

On March 1, 1898, about five o'clock in the morning, I was called to attend Mrs. S., a robust primipara, 20 years of age. She gave me a history of having wasted a good deal at times for several days. She was then flooding freely. On making a digital examination I found the os dilated to about the size of a quarter of a dollar and a soft, spongy mass immediately within the uterus, which I diagnosed a portion of the placenta. Her pains were not expulsive; light and infrequent. I tamponed tightly, waited and watched until one o'clock P. M. The pains had become more frequent, and bearing down well I removed the tampon, found the os dilated about three inches, the head of the child presenting and a portion of the placenta, nearly as large as my hand, pushed to one side and hanging in the vagina. Blood gushed forth after each pain.

I saw that some quick work was required. With some difficulty the forceps were applied, and then with but little delay and all the strength I possessed, I succeeded in delivering her of a very large male child,

which appeared to be asphyxiated. One of the women present succeeded in resuscitating it after a good deal of labor. Immediately after the child was born I inserted my hand into the uterus and removed the placenta, and as the womb refused to contract I reinserted my right hand, and with the left over the abdominal wall, manipulated inside and out, and in a few moments was gratified to find the uterus closing on my hand. The manipulations were kept up for a short time, when firm contractions were established and danger from hemorrhage past. The woman got along nicely, considering her weakened condition, for seven days, when phlegmasia alba dolens commenced in her right leg. This kept her in her bed and room for two months. Mother and child are both in good health at this time.

On the night of February 7, 1898, I was called to attend Mrs. C., aged 43 years, the mother of several children, and found her almost pulseless from hemorrhage. She had been bleeding, at times, for several days. She had very light, non-expulsive pains. On examination I found the os dilated to the size of a dollar, and a portion, it appeared to be central, of placenta covering the orifice. I tamponed and gave her ergot and whisky, and advised consultation. The Drs. Kelly were summoned. As the plug had effectually prevented further hemorrhage and the pains were so light, we deemed it best to wait. Two of us left to attend to some other professional work, Dr. J. W. Kelly remaining. At noon I was hastily summoned, and found that about half an hour previously hard, expulsive pains had come on, and just before I entered her room tampon, child and placenta had been expelled. (The child in this case had been dead for several days; she had felt no movements for more than a week.) The woman was in a fainting condition. I immediately inserted my right hand into the womb, and with the left manipulated from the outside, and at the same time directed hypodermic

injections of strychnine, ergot and whisky to be made. In a few minutes the uterus contracted and she began to revive. A low type of fever followed and kept her confined to bed and room for two or three months.

On the morning of March 15, 1898, I was asked to attend Mrs. R. S., aged 31 years; first confinement. She had had bleedings spells about every four or five days for a month, and I suspected insertion of placenta over the mouth of the womb. Hemorrhages were controlled by a few doses of ergot, cinnamon and tincture of opium. On the above-mentioned morning I found her bleeding profusely, with light, irregular pains.

Digital examination revealed the os open about an inch, tense and hard. I tamponed and waited four hours. The pains growing more expulsive, I removed the plug. The blood again commenced to flow in dangerous quantities, but the os was dilated about two inches and was a little less rigid. I again tamponed, and advised her husband to procure assistance. Dr. Lewis was called in, and we took turns in watching her during the afternoon. Hemorrhage was completely controlled by the tampon, but when removed the blood streamed out again. In the evening Dr. Wray Grayson was summoned. The plug was removed and the cervix found soft and patulous and dilated to about three inches. Blood was still running from the torn vessels. It was then determined to try to turn and deliver the child.

I prepared my hands and arms, aseptically, and introduced the right into the vagina, tore an opening through the placenta into the uterus, and with little difficulty succeeded in grasping the child's legs, brought them down, and delivered her of a female child, which appeared to be dead, but Dr. Lewis succeeded in resuscitating it. I removed the afterbirth, but the womb failed to contract by the usual manipulations. I then reinserted my hand with a piece of ice and Dr. Grayson manipulated from the out-

side. After a short time of faithful work we had the satisfaction to find firm contractions, and the hemorrhage ceased. This woman was several weeks recovering her usual health.

August 11, 1898, was hastily summoned to Mrs. R., aged 29 years, who had miscarried two years before at the sixth month. When I went into her room I found her propped up in bed and everybody trying to see how much they could get in each other's way. From the appearance of the woman I thought she was dying from post-partum hemorrhage, her eyes were set; she was gasping for breath; face bloodless. I immediately dropped her head as low as possible and felt for the child; but it was not where I expected to find it. I then felt inside and found a mass of placenta protruding and blood running from it in large quantities. I told the husband to run for another doctor; but before he could leave the house she gave a long, deep sigh and ceased to breathe. I then inserted my hand and found a dead six or seven months' fetus, which I left in utero. I believe if I had been called to this woman an hour or two sooner she would not have died. She had pains and considerable hemorrhage for two or three hours previous to sending for me.

As to the cause of these abnormal insertions of the placenta I know nothing, and all the light we have ever received from authors amounts to very little. Neither can we anticipate trouble of this kind with any degree of certainty, notwithstanding authorities teach us that the cervix presents to the touch a characteristic patulous and spongy feeling. This cannot be depended upon, as my cases have demonstrated. In two of them the cervix was firm and rigid. The most reliable symptom, probably, is absence of ballottement, but this sign may be found under other conditions. After the os has dilated enough to admit the finger, diagnosis is comparatively easy.

The sources of hemorrhage are two—

ruptured blood vessels in the placenta and open orifices in the portion of the uterus from which the placenta has been detached by the expansion of the neck. Whatever the cause or source of the hemorrhage, or our regard for the various theories of authorities, that which most interests us is, what shall we do when confronted with one of these trying cases? Usually without warning until we are told of the flooding and behold the woman's pale, scared face.

When the hemorrhage is considerable, pains light and the cervix only slightly dilated, a tightly-fitting tampon is, in my judgment, the only safe remedy. And here let me describe what I consider a secure and effective tampon, which is one of the principal objects of this paper. I take a surgeon's sponge $2\frac{1}{2}$ or 3 inches in diameter, which has previously been thoroughly cleaned and rendered aseptic. (I usually carry a few in my obstetrical case.) I then prepare a solution of corrosive sublimate, 1 to 4,000, take a flake of absorbent cotton, thoroughly saturate it with the bichloride solution and carefully wrap the dry sponge with this cotton, being certain to have all parts of the sponge covered. I then insert this into the vagina and push it well up against the os, the moisture in the cotton soon causes the sponge to expand and effectually blocks the cervix and fills the vagina. The cotton prevents the sponge from absorbing the blood or coming in contact with the walls of the vagina and uterus. Then I wait for good, expulsive pains, giving plenty of time if the hemorrhage is kept under control. When the os uteri is sufficiently dilated, I deliver as soon as possible, with forceps or by version, and follow this by emptying the womb of the afterbirth. The hand is not withdrawn from the uterus until firm and lasting contractions are secured. Ergot, strychnine, whisky, etc., should be given as the case may require.

Formaldehyde destroys ringworm.

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LACK OF SLEEP AS A FACTOR IN THE PRODUCTION OF ILL HEALTH.

There is probably no error in the life of persons seeking medical aid, which is often overlooked by the physician than insufficiency of sleep. Many office patients give a history of various symptoms which are difficult to reconcile unless lack of sleep is taken into consideration, and strange to relate, this deficiency is rarely mentioned voluntarily, indeed specific questions are generally necessary to elicit the desired information. It will frequently be found that patients obtain but five or six, or possibly seven hours of sleep in a night. They will admit that more or less energetic efforts are required to awaken them, and that the natural period of sleep had manifestly not come to an end. Such habits will be persisted in for years perhaps, until failing health forces them to seek medical aid, but, as in the case of patients suffering from tobacco poisoning, the true cause of the impaired physical condition is not recognized and often accepted under protest.

All vital functions result in wear of the physical machinery, and this must be repaired during the period of sleep. Growth also, it would seem, is accomplished during sleep, and this accounts for the longer periods of sleep required during the time

when constructive metabolism is at its height.

There can be no doubt that the average length of human life would be greatly increased, were a longer time passed in sleep—were the requirements of civilized life such, that no one were ever disturbed in sleep, until nature herself called for activity. On the other hand, the long continued partial deprivation of this, "Nature's sweet restorer," means the gradual development of an irritable nervous system, deranged digestion, and general functional inactivity, and under the lowered nutritive condition which supervenes, the vital machinery becomes exhausted and worn out, long before its natural time. There can be no fixed rules that will cover all individual cases. The law of demand and supply, should be the guide. K.

VACCINATION AGAINST SMALL-POX.

After the many years of the accumulated evidence, since Jenner's discovery of the value of vaccination in the prevention of small-pox, no one possessing a judicial mind, not to mention ordinary common sense, may rationally oppose this measure on the score of humanity's sake. There are, nevertheless, not a few misguided persons, who are opposed to vaccination, in evidence of which the recent attempt to repeal the act making vaccination obligatory in Pennsylvania, may be cited. From the point of view of the survival of the fittest, it were perhaps a good policy to grant to the anti-vaccinationists, the privilege they demand, and this argument is the more forcible when the absolute immunity acquired by those who avail themselves of vaccination, is taken into consideration. The welfare of the unfit, however, especially those of immature years, must be guarded in our higher civilization, by those of greater intelligence, and the defeat of the attempt to repeal the existing legislation, must therefore be considered as having been the only rational action possible, under the circumstances.

This attempt to repeal the act already referred to, finally resulted in an amendment to section 12, to read as follows:

"All principals or other persons in charge of schools as aforesaid are hereby required to refuse the admission of any child to the schools under their charge or supervision except upon a certificate signed by a physician setting forth that such child has been successfully vaccinated or that it had previously had small-pox. Provided, however, That if the vaccine disease has not been produced after three attempts at vaccination, the last of which having been made within the preceding twelve months, such child may be admitted to school upon a certificate of a physician setting forth this fact. Provided, further, That a reputable physician shall give a certificate that the special condition of a child is such that in his judgment it is not safe to vaccinate the child."

It is a well established fact that there are occasional individuals who possess a natural immunity against small-pox, and to debar such children from attendance at school, is manifestly an injustice. The amendment, therefore, would seem to be in the line of wise legislation, and its enactment into a law cannot but meet with approval under a proper view of the situation.

In this connection a few words bearing on the method of performing the operation of vaccination may not be out of place. Many physicians are inclined to make but a single inoculation, believing that the immunity conferred, will be as great, as where more than one cicatrix is produced. That the reaction from several points of inoculation is greater than where but one is made, is quite susceptible of proof, and it would seem reasonable to believe, without further evidence, that the immunity conferred must of necessity also be greater. As the immunity, in many cases, at best, lasts only a comparatively short time, it becomes a matter of much importance that the operation be performed, in as perfect a manner as possible, not only as regards cleanliness

and purity of virus, but with regard to completeness also. It has been proven that the "degree of modifying power is in the exact ratio of the excellence and completeness of the vaccination, as shown by the cicatrices." Seaton, in "Reynold's System," gives the following mortality rate of small-pox in unvaccinated and vaccinated persons:

1. Unvaccinated 35.00 per cent.
2. Said to have been vaccinated, but having no cicatrix 23.57 per cent.
3. Vaccinated:
 - (a) Having one vaccine cicatrix 6.80 per cent.
 - (b) Having two vaccine cicatrices 4.70 per cent.
 - (c) Having three vaccine cicatrices 1.95 per cent.
 - (d) Having four or more cicatrices 0.55 per cent.
 - (e) Having well marked cicatrices 2.52 per cent.
 - (f) Having badly marked cicatrices 8.82 per cent.
4. Having previously had small-pox 19.00 per cent.

These observations were based upon 15,000 cases of small-pox, and would seem to bear out the statement made above. In keeping with these data all vaccinators should advise and practice the insertion of the virus at more than one point, in order to insure the most complete and lasting immunity. K.

A TRIO OF EVILS.

No trolley car riding physician, has probably failed to be impressed with the unsanitary condition of these vehicles of transportation, from many points of view. As the hurrying car rushes along its way, often through filthy portions of the city, the whirl of the motor disturbs clouds of bacteria-laden dust, not a little of which is drawn through the car, and which with the air saturated with all kinds of odors, from beer and onions, perfumery and flowers, is neither agreeable nor likely to be conducive to health. Within a short time, the sign prohibiting spitting in the cars has become a

familiar one, and is a move in the right direction, but to have the cars built and cared for, under the strictest hygienic rules, is of equal if not greater importance. If the motor apparatus were enclosed in a manner so as to rob it of its street sweeping propensities, and the streets themselves properly sprinkled, the discomfort and danger would be lessened. The car should be constructed with as much regard for ventilation, as for carrying capacity. As it is, the glitter of the omnipresent coin which each passenger represents far outweighs the comfort, convenience and health of those compelled to ride in the cars.

Another evil that has for years been allowed to go unchecked, is seen in the custom of a certain class of papers to publish from time to time, columns of so-called "Health hints," etc., for the benefit of their more or less numerous readers. It is an old story and one familiar to all, and all medical readers have doubtless recognized that in these apparently harmless "hints" a source of greatest danger often lies. It is merely another version of the old adage "A little knowledge is a dangerous thing," and the implicit following out of such imperfect and incomplete, and often incorrect directions, cannot but be productive of misery and possible death. It is a fact worth remembering, that this advice is read by thousands of people, and the various remedies, "good prescriptions," etc., faithfully tried for the relief of certain ailments of which the reader is the unfortunate possessor—the diagnosis having been arrived at by a comparison of his or her case with the list of symptoms for which the remedy is recommended. To illustrate, the following is quoted verbatim from the pages of one of the most prominent religious publications, a journal having thousands of readers, many of them of the class most likely to fall victims to such evil, though well meaning, advice.

"Sunstroke.—A patient suffering from sunstroke should be carried into a cool

room, and cloths wrung out of cold or ice water applied to the head. These should be large enough to envelop the whole head and changed often. A bladder (or bag of oiled silk) partially filled with pounded ice and placed on the head is beneficial."

To any other than a trained medical man this sounds very well, and even a medical man must admit that it is good, as far as it goes, but therein lies the danger. What excited onlooker or fellow worker, of the supposed sufferer of sunstroke, ever heard of heat exhaustion, or would be likely to make the distinction, if he ever had heard of it? Having his little knowledge, he at once proceeds to take the steps which he is sure are indicated, but which unfortunately, may be just the reverse of what is required. Such an instance was seen in a large Eastern city, in the case of a woman who fell fainting on the street on a very hot summer's day. She was promptly packed in ice by a zealous policeman, who had been posted with regard to the treatment such emergency cases should receive. It was with great difficulty that the woman's life was saved by skilled medical attention, when she was found to be suffering from heat exhaustion rather than sunstroke, a condition demanding a very different line of treatment. Many other instances of misapplied knowledge might be cited only to verify the force and truth of the old adage. All such health matters for the lay press should be written by persons high in authority and signed.

A third evil, and this is one which concerns physicians alone, is the too frequent habit of speaking in a derogatory manner of the work of a fellow practitioner. A patient who has failed to receive the relief expected from advice and treatment of the physician under whose care he has been, and who seeks aid elsewhere is often prone to criticize unfavorably the first physician when it can readily be recognized no blame is to be attached. In such a case, unless absolutely untrue or misleading statements

have been made, it is doubtless the second attendant's duty to act the part of peace-maker, instead of widening the breach of confidence by a word of condemnation, or even by silence. The spirit of fault-finding is one into which physicians may easily fall, for it is their routine duty to search for physical defects and faults, and with that habit so thoroughly engrafted, it becomes an easy matter to include mental and moral shortcomings in his search after truth. The elevation of self through the belittlement or debasement of a competitor is one of the lower human attributes which, in those engaged in the self-sacrificing vocation of medicine, should be held under strong check. Its place should be taken by attributes yielding actions of purest zeal for the highest good of all members of the profession.

H. C. W.

EDITORIAL NOTES.

PROGRAM FOR THE JOHNSTOWN MEETING.

Under the head of Official Transactions will be found the program of the Johnstown meeting. Owing to unforeseen delay in the receipt of titles, etc., it was found impossible to arrange the papers in the order in which they will be presented, on the respective days.

K.

IF YOU GO TO JOHNSTOWN.

Dr. F. B. Statler, formerly secretary of the Cambria County Society, writes that members attending the May meeting are at liberty to make his office, 218 Bedford street, Johnstown, Pa., their headquarters and have their mail so addressed.

C. L. S.

DRAINAGE IN THE OPERATION FOR LACERATION OF THE PERINEUM.

The object of the primary operation for laceration of the perineum, may be defeated by the presence of the lochial discharge, which, by separating the torn surfaces, prevents union. That difficulty may be obviated to a great extent by vaginal drainage, which can be readily accomplished by the proper use of rubber tubing.

Some years ago the writer reported a case before the Medical Society of the State of Pennsylvania, in which this plan of treatment was recommended. Subsequent experience with it has been so satisfactory, that it may not be out of place to direct attention to it again. In approximating the torn surfaces, the anterior suture at least, should be of wire, having long twisted and coiled ends. Two rubber tubes about one-fourth of an inch in diameter are placed in the vagina, one almost in contact with the uterus, and the other half an inch distance from it, and both extending a little beyond the vulva. At a point opposite the coil, they may be transfixed by a fine thread, by which they should be attached to it to retain them in position. Gentle irrigation may be practiced through the tubes, to promote drainage and disinfection. They may be retained in position during the continuance of the discharge, or until the time of the removal of the stitches. The ends of the tubes should be smoothed in a flame. Their presence in the vagina does not seem to cause irritation, but they undoubtedly contributed toward the success of the operations, in which they were used.

F. LeMoyné.

CONGLOMERATE.

Dr. Burton H. Putnam, of North East, a member of the Erie County Medical Society, was recently appointed surgeon of the Lake Shore and Michigan Southern Railway Company.

At the Annual Meeting of the Western Ophthalmologic and Oto-Laryngologic Association, held in New Orleans, February 10th and 11th, the following officers were elected for the ensuing year: Dr. W. Scheppegrell, of New Orleans, president; Dr. M. A. Goldstein, of St. Louis, first vice-president; Dr. H. V. Wurdemann, of Milwaukee, second vice-president; Dr. E. C. Ellett, of Memphis, third vice-president; Dr. F. C. Ewing, of St. Louis, secretary; Dr. W. L. Dayton, of Lincoln, Neb., treas-

urer. St. Louis was selected for the next annual meeting.

Mr. H. F. Parke, senior member of the firm of Parke, Davis & Co., died February 8th at the age of 72 years.

A bronze statue, of the late Dr. William Pepper, is to be erected on the City Hall plaza, in Philadelphia.

Dr. Simon Flexner has been elected to succeed Dr. John Guiteras, as professor of pathology in the University of Pennsylvania. K.

TUBERCLE BACILLI IN MARKET BUTTER.

Obermuller (*Hygienische Rundschau* January 15, 1899), who, in a previous investigation had found tubercle bacilli in market butter, recently examined ten samples of Berlin butter of the best quality, purchased at different places, and found, by inoculating animals with the sediment, obtained by centrifugalization, that four samples contained tubercle bacilli.

From the tissues of the animals that became tuberculous he was able to isolate the tubercle bacillus in pure culture, especially by using glycerinated blood-serum, which is better for the purpose than glycerin-agar. He does not think that contaminated butter is a main factor in the spread of tuberculous infection; the exact part which it plays awaits investigation. Knowledge concerning the danger of tuberculosis through consumption of milk and milk-products should be disseminated, and the methods of prevention pointed out. Most important is governmental control of milk-cattle with respect to tuberculosis, and the use of tuberculin inoculations.—(University Med. Magazine.)

VAGINAL SUPPOSITORIES OF QUININE IN THE TREATMENT OF LEUCORRHOEA.

Hardwicke (*Lancet*, January 7th) reports good results from the insertion once a day of a suppository containing three grains of quinine hydro-bromide.—(N. Y. Medical Journal.)

Reviews.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By Victor G. Vecki, M. D. From the Author's Second German Edition, Revised and Rewritten. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899.

This book can only be noticed to be condemned. It deals with a most delicate subject in a most fanciful and indelicate manner and inculcates views which are directly opposed to the moral code. The book cannot fail to do harm if it falls into the hands of non-medical readers, as will, in all probability, be the case. It is a pity that it was printed. T. D.

ACROMEGALY. An Essay to Which Was Awarded the Boylston Prize of Harvard University for the Year 1898. By Guy Hinsdale, A. M., M. D., Fellow of the College of Physicians of Philadelphia and of the American Academy of Medicine; Member of the American Neurological Association, Etc., Etc. Reprinted from *Medicine*, 1898. William M. Warren, Publisher, Detroit. Price, \$1.50.

The literature of this striking disease has, since its recognition, by Marie, in 1896, become quite voluminous, as witnessed by Dr. Hinsdale's seven pages of bibliographical references. From this literature the author has constructed a most excellent detailed description of the disease, making his monograph the most extensive one to be had on the subject, and one which will prove of great value to those seeking special information on acromegaly. A large number of excellent photographs adds much to the value of the work. T. D.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Sciences. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City. In Twenty Volumes. Volume XVII., "Infectious Diseases and Malignant Neoplasms." New York: William Wood & Company. 1898.

The seventeenth volume of this excellent series contains articles on diphtheria, tetanus, cancer, sarcoma, malignant new growths of the skin, and malignant diseases of the female organs of generation. The best known of the contributors to this volume, is Dr. A. Jacobi, of New York, who writes on the symptomatology and treatment of diphtheria. The pathology and bacteriology is by Dr. W. H. Park, assistant director of the Research Laboratory of the Health Department of New York City. All three main subjects, diphtheria, tetanus and malignant growths, are excellently well presented, so that this volume, as a whole, is fully in keeping in point of merit with the foregoing ones, if not superior to them.

MANUAL OF CLINICAL CHEMISTRY. By Elias H. Bartley, B. S., M. D., Professor of Chemistry and Toxicology in the Long Island College Hospital, etc. Thirty-three Illustrations. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1899.

The matter set forth in this work will be found to appeal to every practitioner, and especially to students of medicine and pharmacy, by reason of its compactness as well as clearness. Especially commendable are the experiments with the carbohydrates, fats, proteids, milk, etc., which are given. The author recognizes fully the vast importance of food, urinary and fecal analyses, in the diagnosis of disease, and his scheme for the investigation of these subjects, both analytical and microscopical, is most excellent. A. F. J.

NEW BOOKS.

Surgical Nursing, by Bertha M. Voswinkel, Graduate of Episcopal Hospital, Philadelphia; etc. Second Edition. Revised and Enlarged. With 112 Illustrations. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1899.

Chemistry: General, Medical and Pharmaceutical including the chemistry of the U. S. Pharmacopœia. By John Attfield, F. R. S. New (16th) Edition. In one Royal 12mo. volume of 784 pages, with 88 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Philadelphia and New York.

Diagnosis by the Urine or The Practical Examination of Urine, With Special Reference to Diagnosis. By Allard Memminger, M. D., Professor of Chemistry, Urinology and Hygiene in the Medical College of the State of South Carolina, etc. Second Edition. Enlarged and Revised. With Illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1899. Price, \$1.00.

Retinoscopy (Or Shadow Test) in the Determination of Refraction at one Metre Distance, With the Plane Mirror. By James Thorington, M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; etc. Third Edition. Revised and Enlarged. Forty-three Illustrations, twelve of which are colored. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1899.

A Hand-Book of Obstetric Nursing for Nurses, Students and Mothers. Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M. D., Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia, etc. Fifth Revised Edition.

Illustrated. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1899.

Nervous and Mental Diseases. By Archibald Church, M. D., Professor of Clinical Neurology and of Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School, Chicago; etc., and Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; etc. With 305 Illustrations. Price, cloth, \$5.00 net. Half Morocco, \$6.00 net. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Volume I. March, 1899. Surgery of the Head, Neck and Chest—Diseases of Children—Pathology, Infectious Diseases, Including Croupous Pneumonia—Laryngology and Rhinology—Otology. Lea Brothers & Co., Philadelphia and New York. 1899.

REPRINTS AND PAMPHLETS.

Injuries of the Eyelids and Eyeballs. By L. W. Fox, M.D., Philadelphia.

Entotical Sound Perceptions. By Charles S. Somers, M.D., Philadelphia. Reprinted from *Medicine*.

The Technique of Closing Cæcal Fistula. By Carl Beck, M. D., New York. Reprinted from the *Medical Record*, October 1, 1898.

Iritis: Its Treatment. Strabismus: Mules' Operation. By L. W. Fox, M.D., Philadelphia. Reprinted from the *Medical Bulletin*.

Echinococcus of the Lungs. By Carl Beck M. D., New York. Reprinted from the *Journal of the American Medical Association*, November 19th, 1898.

Excision of the Sacro-Iliac Joint, with Report of Two Cases. By J. J. Buchanan, M.D., Pittsburgh. Reprinted from the *Memphis Lancet*, December, 1898.

The Use of Formaldehyde in Tubercular Laryngitis. By Thos. J. Gallaher, M.D., Denver. Reprinted from the *Journal of the American Medical Association*.

Partial or Complete Loss of Vision from Causes Other than Injuries. By Dunbar Roy, M.D., Atlanta. Reprinted from the *International Journal of Surgery*, February, 1898.

The Bearing of the Neurotrophic Function on Cutaneous Conditions. By Samuel Wolfe, M. D.,

of Philadelphia. Reprinted from the Philadelphia Medical Journal, March 25, 1899.

Abdominal Section on a Patient Suffering from Exophthalmic Goitre. By Charles P. Noble, M. D., Philadelphia. Reprinted from the American Gynecological and Obstetrical Journal, December, 1898.

Some Results in Cases of Tobacco Amblyopia. By Louis J. Lautenbach, M. D., Philadelphia. Reprinted from the Journal of the American Medical Association, October 1, 1898.

Is Appendicitis a Surgical Disease? By Carl Beck, M. D., New York. Reprinted from the New York Medical Journal for November, 12, 19 and 26, and December 10, 1898.

The Modern Treatment of Gunshot Wounds in Military Practice. By N. Senn, M.D., Chicago. Reprinted from the Journal of the American Medical Association, July 9th, 1898.

The Radical Cure of Inguinal Hernia by Fowler's Method, with Report of Cases. By H. O. Walker, M.D., Detroit. Reprinted from the Leucocyte, Vol. VI., Nos. 1 and 2.

The Milk-Supply of Cities: Can It be Improved? By Henry O. Marcy, M.D., Boston. Reprinted from the Journal of the American Medical Association, December 10th, 1898.

Some Sources of Failure in Treating Lachrymal Obstructions. By Leartus Connor, M.D., Detroit. Reprinted from the Journal of the American Medical Association, October 8th, 1898.

Do Gross Pathologic Changes Occur in the Eye After Injuries to the Spinal Cord. By Dunbar Roy, M.D., Atlanta. Reprinted from the Philadelphia Medical Journal, November 12th, 1898.

Prompt Attention to Earaches in Infancy and Early Childhood. By Louis J. Lautenbach, M. D., Philadelphia. Reprinted from the Journal of the American Medical Association, October 29, 1898.

The Etiology and Classification of Cystitis. Paper read before American Surgical Association. By N. Senn, M.D., Chicago. Reprinted from International Clinics, Vol. II., Eighth Series.

Cataract Operations: Mules' Operation Illustrated by Skiagraphs; Capsulotomy; Operation for Pterygium. By L. W. Fox, M.D., Philadelphia. Reprinted from International Clinics, Vol. II, Eighth Series.

Shall Absorbable or Non-Absorbable Ligatures and Sutures be Employed in Hysterectomy and Salpingo-Oophorectomy? By Charles P. Noble, M. D., Philadelphia. Reprinted from the Medical News, October 15, 1898.

The Treatment of Heart Disease by Saline Baths and Resisted Movements—Schott Method.

By Charles L. Greene, M.D., St. Paul. Reprinted from the Journal of the American Medical Association, October 15th, 1898.

Intestinal Tuberculosis. 1, Etology, Pathology, and Diagnosis. 2, Surgical Treatment. By N. Senn, M.D., Chicago. Reprinted from the Journal of the American Medical Association, May 21st, and June 4th, 1898.

Oedematous Changes in the Epithelium of the Cornea in a case of Uveitis Following Gonorrhœal Ophthalmia. By Edward Stieren, M.D., Pittsburgh. Reprinted from the Johns Hopkins Hospital Bulletin, No. 93, December, 1898.

Remedial Measures Proposed for Pennsylvania. By Samuel Wolfe, M. D., of Philadelphia. Reprinted from the Transactions of the Twenty-fifth National Conference of Charities and Correction, held in New York City, May 18-25, 1898.

A Case of Concentric Displacement of the Heart to the Right, Presenting Some Unusual Features. By Charles L. Greene, M.D., St. Paul, and J. L. Rothrock, M.D., St. Paul. Reprinted from the Philadelphia Medical Journal, March 26, 1889.

A Case of Uterus Bicornis Duplex and Vagina Duplex, with Pregnancy in One Horn; Excision of Vaginal Septum; Normal Labor. By F. Blume, M. D., Pittsburgh. Reprinted from November Number, Vol. XII., Annals of Gynecology and Pediatrics. 1898.

Some Clinical Operations Based Upon One Hundred and Sixteen Abdominal Sections for Ovarian Tumors. By X. O. Werder, M.D., Pittsburgh. Reprinted from the American Journal of Obstetrics and Diseases of Women and Children, Vol. XXXVIII., No. 5. 1898.

Some of the Complications Following Vaginal Hysterio-Salpingo-Oophorectomy in Pelvic Suppuration. With Remarks on the Objections to this Operation. By F. Blume, M. D., Pittsburgh. Reprinted from the American Journal of Obstetrics, Vol. XXXVIII., No. 5, 1898.

The Presidential Address. The American Medical Association: Its Past, Present and Future. Delivered at the Semi-Centennial Anniversary Meeting of the American Medical Association, at Philadelphia, June 1st, 1897. By N. Senn, M.D., Chicago. Reprinted from the Journal of the American Medical Association, June 5th, 1897.

A Case of Landry's Paralysis. Autopsy; Pathologic Report; Life Prolonged by Artificial Means for 41 Days After the Establishment of Respiratory Paralysis. By Charles L. Greene, M.D., St. Paul, with Pathologic Reports by L. B. Wilson, M.D., and J. L. Rothrock, M.D. Reprinted from the Philadelphia Medical Journal, December 3rd, 1898.

MEDICAL EXAMINING BOARDS OF PENNSYLVANIA.

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of the State of Pennsylvania.

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NOTES.

For the benefit of those who think that the chemistry examinations before the Pennsylvania Board are too severe, the following set of questions, used recently in the examination for license in the Province of Ontario, Canada, is here appended:

CHEMISTRY.

1. Enunciate the laws governing the variation of the volume of gases for changes of pressure and temperature.

What volume of chlorine at 15° C. and 500 m. m. pressure can be got from 100 grammes of sodium chloride by manganese dioxide and sulphuric acid?

2. Give the natural modes of occurrence, method of preparation and principal chemical facts regarding mercury; and from it how would you manufacture calomel?

3. What is the general chemical composition of the following bodies: Amethyst, bone-ash, clay, emery, flint, felspar, marble, plaster-of-Paris, sand, white lead?

4. Write constitutional formulæ for the following substances: Thio-carbonic acid, calcium hypochlorite, pyro-phosphoric acid, dimethyl ketone, amido-acetic acid, potassium ferrocyanide, trimethyl-triethylethane, triphosphonium-iodide.

5. What substances are found when ethyl alcohol is acted on by each of the following: Hydrochloric acid, potassium hydroxide, sodium, iodine and potassium carbonate and phosphorus triiodide? Give equations.

6. An organic acid on analysis gives the following percentage composition:

Carbon.....	40.00
Hydrogen.....	6.67
Oxygen.....	53.33

Its vapor density is 3.12 (air = 1). Calculate its molecular formula, and give the name of the acid.

7. How is benzoic acid artificially prepared? Show by formulæ its relation to salicylic acid, toluene and saccharin.

8. In the following analysis of a drinking water

explain each item, and tell how it is determined:

	Parts per million.
Total solids.....	95.00
Chlorine	22.22
Nitrogen in nitrates and nitrites....	0.24
Free ammonia	0.03
Albuminoid ammonia	0.06
Oxygen absorbed in 15 minutes....	0.06
Oxygen absorbed in 4 hours.....	0.14

ATOMIC WEIGHTS.

H.-1	C.-12	Na. 23
O.-16	Cl.-35.5	Mn. 54
	S.-32	

The Medical Council is perfectly willing to establish reciprocity with the State of New York. Whenever the New Yorkers want to meet the Medical Council half way they will find that there will be no trouble about establishing reciprocity.

Last year the following rule was adopted by the Medical Council: If in any of the examinations the applicant falls below 55 per cent. in any two branches, he would not be granted a license, even if he makes the required average of 75 per cent. in all the branches.

On January 16 the Senate confirmed the appointment of Dr. Horace G. McCormick, of Williamsport, Pa., and Dr. William S. Foster, of Pittsburg, Pa., who were re-appointed a year ago by Governor Hastings on the Board of Examiners for a three years' term.

During the past five years a great deal of cheating has taken place in the different examinations. This has been done principally by means of small ponies or little rolls of papers concealed very easily in the closed hand. Notwithstanding the great difficulty of detecting this among so large a number, nine or ten men have been caught and expelled during this time. The members of the Board are determined, if possible, to break up this practice, and in future, no doubt, much more stringent rules will be adopted.

March 9, Governor Stone re-appointed Dr. Hulshizer and Dr. Hamaker as members of the State Board of Medical Examiners, representing the Medical Society of the State of Pennsylvania for three years' term.

The Board of Medical Examiners representing the State Medical Society of Pennsylvania, organized for the present year's work at Harrisburg, April 4, by electing Dr. Henry Beates, Jr., President, and Dr. W. S. Foster, Secretary.

The next examinations will be held June 20, 21, 22 and 23, in Philadelphia and Pittsburg. The personnel of the Board remains the same as last year.

Communications.

RECTAL SPECIALISTS.

At the time of the meeting of the American Medical Association at Columbus, June 6-9, there will be a meeting of the medical men engaged in the practice of Proctology, for the purpose of effecting a permanent society for the study of their specialty. Physicians interested in the project are requested to address Dr. Wm. M. Beach, 515 Penn Avenue, Pittsburg, Pa.

MEMORIAL TO DR. O'DWYER

A committee of over forty physicians, representing sixteen different medical societies of the city of New York, and including representatives of both schools of medicine, has been formed for the purpose of doing honor to the memory of Dr. Joseph O'Dwyer.

The first meeting was held at the New York Academy of Medicine, November 22, 1898, under the chairmanship of Dr. J. D. Bryant, and was mainly devoted to organization. Dr. Geo. F. Shrady was elected permanent Chairman, and Dr. Alfred Meyer permanent Secretary, and the following Committee on Scope and Plan was appointed: Dr. Dillon Brown, Chairman, and Drs. Robert Abbe, R. G. Freeman, L. Emmet Holt and Louis Fischer. At the second meeting, held at the Academy of Medicine, March 13, 1899, the report of the Committee on Scope and Plan was adopted, and now only awaits final action of a meeting of the full committee.

The memorial to Dr. O'Dwyer will probably take an educational form, for by the plan now outlined, it is proposed to raise a fund of \$30,000, the interest of which shall support two O'Dwyer Fellowships in Paediatrics, open to competition by physicians who graduate in the United States, and to be held by the successful competitors for a period of two years. During this period they must furnish satisfactory proof of their engagement in original research work to a committee of five, one of whom shall be appointed by the President of Harvard University, one by the Dean of the Johns Hopkins Medical School, one by the Provost of the University of Pennsylvania, one by the President of the University of Chicago, and one by the President of the New York Academy of Medicine.

Many details of this general plan are still to be arranged, which it shall be the agreeable duty of the Secretary to furnish to the medical press of the country so soon as they are finally decided. This preliminary notice has for its object merely to acquaint the profession with the fact that a movement of this nature is on foot, and that an

effort will be made to give it the international character so fitting as a memorial to an investigator of international reputation.

CENTENNIAL MEETING, MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

McCoy Hall, Johns Hopkins University, April 25, -28, 1899.

TUESDAY, APRIL 25.

8 P. M.—Address by Prof. S. C. Chew, President of the Faculty.

9.30 P. M.—Reception by the Faculty.

WEDNESDAY, APRIL 26.

10 A. M. to 1 P. M.—Demonstrations and Clinics at the College of Physicians and Surgeons, Baltimore University and the Johns Hopkins Hospital.

1.30 P. M.—Luncheon at the Johns Hopkins University, provided by these institutions.

3 P. M.—Scientific Meeting, McCoy Hall. Papers by:

Dr. Herman Knapp, of New York, on Some Landmarks in the History of Ophthalmology.

Dr. E. G. Janeway, of New York, Clinical Observations on Some Forms of Heart Disease.

Dr. George Ben Johnston, of Richmond, How Far Myomectomy is to Supplant Hysterectomy.

Dr. W. W. Johnston, of Washington, J. Hughes Bennett; His Services to Medicine.

Dr. Samuel Alexander, of New York, The Management of Vesical Calculus in Prostatics.

8 P. M.—McCoy Hall. Annual Oration by Prof. W. W. Keen, of Philadelphia, on the Debt of the Public to the Profession.

9.30 P. M.—Private Receptions.

THURSDAY, APRIL 27.

10 A. M. to 1 P. M.—Demonstrations and Clinics at the University of Maryland, Baltimore Medical College, Woman's Medical College and the Maryland Medical College of Baltimore.

1.30 P. M.—Luncheon at the Johns Hopkins University, provided by these institutions.

3 P. M.—Scientific Meeting, McCoy Hall. Papers by:

Dr. A. Jacobi, European Medicine About 1799.

Dr. E. H. Bradford, of Boston, A Study of the Human Gait.

Dr. H. C. Wood, of Philadelphia, Nostrums; the Profession, the Law.

Dr. Roswell Park, of Buffalo, Cancer as a Parasitic Disease.

Dr. J. C. Edgar, of New York, Obstetric Teaching.

7 P. M.—Annual Dinner of the Faculty.

FRIDAY, APRIL 28.

8 P. M.—Business Meeting of the Faculty.

The various hospitals and other State institutions in the vicinity of Baltimore will be thrown open for inspection at fixed hours, to be announced on the program.

In the corridors of McCoy Hall and in the Donovan Room there will be a series of most interesting exhibits:

(a) Portraits of distinguished deceased physicians of Maryland.

(b) Diplomas and relics, etc.

(c) In the Donovan Room a literary and pic-

torial representation of the chief epochs in medicine.

(d) A collection of relics illustrating the textbooks and literature of the year of the founding of the Faculty, 1799.

(e) A collection of the published works of the medical profession of Maryland.

(f) A collection of works illustrating the development of art in medicine.

The large drug houses and publishing firms have signified their intention of making important exhibits of pharmaceutical preparations and the recent published works.

Reduced rates on the railroads and steamboat lines will be arranged by Dr. J. D. Iglehart, Secretary of the Transportation Committee, 1214 Linden avenue.

Official Transactions.

GENERAL ANNOUNCEMENTS AND PROGRAM OF THE MEETING OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, AT JOHNSTOWN

The Forty-Ninth Annual Meeting of the Medical Society of the State of Pennsylvania, at Johnstown May 16th, 17th, 18th, 1899.

MEETING WILL BE HELD AT THE JOHNSTOWN OPERA HOUSE.

ANNUAL ANNOUNCEMENT AND PROGRAM FOR 1899.

RAILROAD RATES.

Round-trip tickets from points in Pennsylvania to Johnstown will be sold at the rate of four cents a mile, one way distance, on presentation of a card order for the same. These card orders are now in the hands of the secretary of the society, Dr. C. L. Stevens, Athens, and can be obtained by writing him. State over what roads you wish to travel, and how many will be in your party. Members wishing to go home over night will require a separate order for each round-trip. Tickets to be sold and good going May 14 to 18, inclusive; and good returning on or before May 20. Orders not used to be returned to the secretary.

HOTELS.

Merchants, Main Street..\$2.00 to \$2.50 per day.
Capital, Main and Walnut Streets\$2.00 to \$2.50 per day.
Franklin, Franklin Street\$2.00 per day.
Grand Central, Iron Street.....\$1.50 per day.
Keystone, Main Street\$1.50 per day.
Sheehan, Main Street\$1.50 per day.
Cook, Bedford Street.....\$1.50 per day.
Somerset, Bedford Street\$1.50 per day.

The "Merchant's" will be considered Headquarters.

For further information concerning hotels and rooms, communicate with Dr. John B. Lowman, Johnstown, Chairman of Committee on Reception and Hotels.

OFFICERS FOR THE YEAR 1898-1899.

PRESIDENT.

Webster B. Lowman, Johnstown, Pa.

VICE-PRESIDENTS.

First, R. B. Watson, Lock Haven.

Second, G. W. Guthrie, Wilkesbarre.

Third, J. Aug. Ehler, Lancaster.

Fourth, Henry Landis, Reading.*

*Died, October 18, 1898.

SECRETARY.

C. L. Stevens, Athens.

ASSISTANT SECRETARY.

G. W. Wagoner, Johnstown.

TREASURER.

Geo. Benson Dunmire, Philadelphia.

BOARD OF TRUSTEES AND JUDICIAL COUNCIL.

M. Albert Rhoads, Reading..	Term expires 1899.
John H. Packard, Philadelphia	" " 1899.
John Curwen, President, Warren	" " 1899.
R. Armstrong, Lock Haven...	" " 1900.
I. C. Gable, York	" " 1900.
W. T. Bishop, Harrisburg....	" " 1900.
Theo. P. Simpson, Secretary, Beaver Falls	" " 1901.
Henry Beates, Jr., Philadelphia	" " 1901.
Thos. D. Davis, Pittsburg....	" " 1901.

COMMITTEE ON ARRANGEMENTS AND CREDENTIALS.

G. W. Wagoner, Chairman, Johnstown.

OFFICIAL STENOGRAPHER.

H. L. Andrews, 631 Penn Ave., Pittsburg.

COMMITTEES OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

COMMITTEE ON PUBLICATION.

Adolph Koenig, Chairman, 108 Ninth Street, Pittsburg.

Edward Jackson, Secretary, Denver, Colorado.

H. A. Hare, Philadelphia,

D. W. Nead, Philadelphia.

J. H. Wilson, Beaver,

C. L. Stevens, Athens,

H. L. Orth, Harrisburg,

G. B. Dunmire, Philadelphia.

COMMITTEE ON PHARMACY.

James I. Johnston, Chairman, Pittsburg.

John Fay, Altoona,

D. P. Miller, Huntingdon,

Wm. B. Ansley, Saltsburg,

H. H. Brotherlin, Hollidaysburg.

COMMITTEE ON SCIENTIFIC BUSINESS.

S. S. Towler, Chairman, Marionville, Forest Co. Term expires 1899.
 Adolph Koenig, Pittsburg 1900.
 Theo. B. Appel, Lancaster 1901.
 H. A. Hare, Philadelphia 1902.
 Chas. W. Dulles, Philadelphia. " " 1903.

COMMITTEE ON RUSH MONUMENT FUND.

W. Murray Weidman, Chairman, Reading.

COMMITTEE ON ARCHIVES.

J. H. Musser, Chairman, Philadelphia.
 J. Augustus Ehler, Lancaster.

COMMITTEE ON LEGISLATION.

I. C. Gable, Chairman, York.
 Alex. Craig, Columbia,
 H. L. Orth, Harrisburg.

COMMITTEE ON INCREASE OF MEMBERSHIP AND EXTENSION OF POLYCLINIC TEACHING.

C. L. Stevens, Chairman, Athens.
 Thos. D. Davis, Pittsburg,
 Thomas S. K. Morton, Philadelphia,
 W. D. Hamaker, Meadville,
 A. C. Wentz, Hanover.

COMMITTEE TO EXAMINE SCHOOL TEXT-BOOKS.

Louis J. Lautenbach, Chairman, Philadelphia.
 Israel Cleaver, Reading,
 R. B. Watson, Lock Haven,
 O. F. Harvey, Wilkesbarre,
 John Fay, Altoona.

COMMITTEE TO CONFER WITH STATE BAR ASSOCIATION.

W. T. Bishop, Chairman, Harrisburg.
 W. Murray Weidman, Reading,
 S. S. Towler, Marionville,
 H. G. McCormick, Williamsport,
 J. B. Roberts, Philadelphia.

EXTRACT FROM THE BY-LAWS.

ARTICLE VIII.

Section 2. Before admission to a seat in this Society, each delegate shall produce a certificate of delegation, signed by the president or secretary of the county society of which he is a member, and be enrolled as a delegate.

Sec. 4. A permanent member (not a delegate), before admission to a seat at the sessions of this body, shall present a certificate, signed by the secretary of the county society to which he belongs, setting forth the above facts, be registered, and have complied with all the requirements pertaining to a delegate.

ARTICLE XV.

Section 1. No annual address, except that of the President, shall exceed in its delivery twenty minutes.

Sec. 2. No scientific paper presented to this Society shall exceed in its delivery ten minutes.

Sec. 3. In discussion no member shall be per-

mitted to speak longer than five minutes, nor a second time on the same communication, except in the case of a member presenting said communication, who shall be entitled to ten minutes in closing the debate. Provided, however, that a member may be permitted to speak a second time, by a majority vote of the Society.

Sec. 5. All addresses and papers presented to the Society shall be placed in the hands of the Committee on Publication within ten days after adjournment. The insertion in the Transactions of any communication received after that time shall be optional with the committee.

ARTICLE XVI

Section 2. The program, when adopted, shall constitute thereafter the order of business, and cannot be changed nor suspended, except for a definite purpose, a limited time, and by an affirmative vote of two-thirds of the members present.

Sec. 4. Any member not ready to respond when his name is called, shall forfeit his position on the program.

Sec. 5. All forfeited privileges, and all other matters unavoidably postponed, shall come under the head of unfinished business.

Sec. 6. All volunteer papers, reports, etc., not upon the program, shall come under the head of new business.

STANDING RULE ADOPTED IN 1895.

The Committee of Arrangements of each annual meeting shall grant the privilege of exhibition, under the auspices of this Society, only to such pharmaceutical articles as are recognized by the United States Pharmacopœia, or are not protected by trade mark, secrecy of preparation, or other exclusive proprietorship.

GENERAL INFORMATION

Morning and afternoon sessions of the Society will be held in the Johnstown Opera House, Tuesday, Wednesday, and Thursday, May 16, 17, and 18. Morning sessions from 9 A. M. to 12 M. Afternoon sessions from 2 P. M. to 5.30 P. M.

Tuesday evening, May 16, at 8 P. M., the President, Webster B. Lowman, will deliver the Annual Address in the Johnstown Opera House, and immediately thereafter the President will give a Reception to the Medical Society of the State of Pennsylvania and visiting ladies, the Cambria County Medical Society and guests, in the Amicus Club Rooms, Franklin Street.

Wednesday evening, the Cambria County Medical Society will give a Reception and Banquet in the Amicus Club Rooms, to the Medical Society of the State of Pennsylvania and visiting ladies. Reception and banquet from 9 P. M. to 12 M.

The visiting ladies will be provided with pleas-

ant headquarters in the Elks' Hall, Opera House Block, from which point several excursions will start during the meeting, to the points of interest about Johnstown. A committee of ladies will be in attendance at the headquarters at all times.

The registration clerks will be located in the lobby of the Opera House, where every facility for speedy registration will be provided.

ADDRESSES.

The Annual Address,

Webster B. Lowman, President, Johnstown.

The Address in Medicine,

J. Chris. Lange, Pittsburg.

The Address in Surgery,

Geo. W. Guthrie, Wilkesbarre.

The Address in Obstetrics,

Francis P. Ball, Lock Haven.

The Address in Hygiene,

W. M. L. Coplin, Philadelphia.

The Address in Mental Diseases,

H. L. Orth, Harrisburg.

The Address in Laryngology,

D. Braden Kyle, Philadelphia.

Tuesday, May 16, 1899, 9 A. M.

Dr. Webster B. Lowman, President, will call the Society to order.

Prayer by Rev. S. A. Potter.

Presentation of Register of Delegates, by Dr. C. L. Stevens, Sec.

Introduction of Delegates from other Societies and of visitors.

Address of welcome, by Dr. H. F. Tomb, President of Cambria County Medical Society.

Reports of—

The Secretary, Dr. C. L. Stevens, Athens.

The Treasurer, Dr. George Benson, Dunmire, Philadelphia.

Appointment of Auditors.

The Board of Trustees, Dr. Theo. P. Simpson, Beaver Falls, Secretary.

The Board of Censors, Dr. Theo. P. Simpson, Beaver Falls, Recorder.

District Censors.

The Committee on Arrangements and Credentials, Dr. Geo. W. Wagoner, Johnstown, Chairman.

The Committee on Publication, Dr. Adolph Koenig, Pittsburg, Chairman.

The Committee on Pharmacy, Dr. James I. Johnston, Pittsburg, Chairman.

The Committee on Scientific Business, Dr. S. S. Towler, Marionville, Chairman.

The Committee on Increase of Membership and Extension of Polyclinic Teaching, Dr. C. L. Stevens, Athens, Chairman.

The Committee on Rush Monument, Dr. W. Murray Weidman, Reading, Chairman.

The Committee on Legislation, Dr. I. C. Gable, York, Chairman.

The Committee to Examine School Text-Books, Dr. Louis J. Lautenbach, Philadelphia, Chairman.

The Committee to Confer with the State Bar Association, Dr. W. T. Bishop, Harrisburg, Chairman.

The Committee on Archives, Dr. J. H. Musser, Philadelphia, Chairman.

Delegates to other Societies.

Consideration of Reports of Various Committees.

New Business.

Intermission, 12 M.

Choosing Members of Committees on Nominations by the Delegates from the County Societies.

Other business meetings and entertainments will be as follows:

Tuesday evening, Johnstown Opera House.

Doors open at 7 P. M. Exercises begin promptly at 8 P. M.

Welcome to Johnstown,

Hon. L. D. Woodruff, Mayor City of Johnstown.

Address of Welcome,

Hon. A. V. Barker, President Judge of Cambria Co.

Annual Address,

Dr. Webster B. Lowman, President Medical Society of the State of Pennsylvania.

Reception given by Dr. and Mrs. Webster B. Lowman, President, to the Medical Society of the State of Pennsylvania, visiting ladies, the Cambria County Medical Society, and guests, Amicus Club Rooms, Franklin Street. Reception from 9.30 P. M. to 12 M.

Unfinished business and new business will be the order of the day, at the end of each morning and afternoon session.

Wednesday, at 9 A. M., Announcement of Committee on Nominations. 2 P. M., Report of Committee on Nominations. 9 P. M., Reception and banquet tendered the Medical Society of the State of Pennsylvania, by the Cambria County Medical Society, at the Amicus Club Rooms, Franklin Street. Reception at 9 P. M. Banquet at 10 P. M.

Thursday afternoon, inauguration of president-elect.

SCIENTIFIC PROGRAM.

The following papers will appear on the scien-

tific program for the Johnstown meeting. Where titles are not given, it is owing to their not being received up to this date by the undersigned. A copy of the complete program will be sent to each officer of the society and authors of papers prior to the meeting. It is urged, however, that members make arrangements to take the entire three days off, so that each and every subject may be heard and discussed.

The Address in Medicine, by J. Chris. Lange, Pittsburg.

The Address in Surgery, by George W. Guthrie, Wilkesbarre.

The Address in Obstetrics, by Francis P. Ball, Lock Haven.

The Address in Hygiene, by W. M. L. Coplin, Philadelphia.

The Address in Mental Diseases, by H. L. Orth, Harrisburg.

The Address in Laryngology, by D. Braden Kyle, Philadelphia.

Observations on Nature and Her Methods, by W. R. Hockenberry, Slippery Rock.

Diphtheria in the Roselia Foundling Asylum of Pittsburg—Treatment with Antitoxin, Adolph Koenig, Pittsburg.

The Duty of the Physician to his Patients in Respect to Opticians, L. J. Lautenbach, Philadelphia.

Clinical Experiences with Head Injuries, J. H. Anderson, Pittsburg.

A Plea for Posterity, A. L. Russell, Midway.

Melano—Sarcoma of the Conjunctiva—Report of a Case, G. E. Curry, Pittsburg.

Hemorrhage During the Menopause, J. M. Duff, Pittsburg.

Some of the Legal Results of Advanced Medical Legislation, W. S. Foster, Pittsburg.

Relapse in Typhoid Fever, L. H. Mayer, Johnstown.

Enlargement of the Prostate Gland, T. C. Detwiler, Lancaster.

Vaginal or Abdominal Section in Pelvic Surgery? B. F. Baer, Philadelphia.

The Treatment of Appendicitis, R. H. Gibbons, Scranton.

Pulmonary Tuberculosis, with Intercurrent Typhoid Fever, Complicated by Pneumonia, A. A. Eshner, Philadelphia.

The Normal Movements of the Ocular Muscles, Joseph E. Willetts, Pittsburg.

On the Remote Results in Artisans' Palsy, F. S. Pearce, Philadelphia.

The Treatment of Obstinate Cases of Stomach Trouble by Mechanical Means (A Clinic), A. Enfield, Bedford.

The State Board of Health and Antitoxin, T. D. Davis, Pittsburg.

Some of the Dangers of the Uterine Curette, X. O. Werder, Pittsburg.

Prolapse of the Rectum, R. W. Stewart, Pittsburg.

The Importance of Early and Proper Attention to Ailments of the Eye, G. W. Allyn, Pittsburg.

Some Clinical Observations upon Diseases of the Skin, John V. Shoemaker, Philadelphia.

What Can We Promise from Operative Treatment of Cancer of the Uterus? E. E. Montgomery, Philadelphia.

Appendicitis in Relation to Pelvic Diseases, Wilmer Krusen, Philadelphia.

A Note on the Employment of Solutions of Toluidin-blue in External Inflammatory Diseases of the Eye, C. A. Veasey, Philadelphia.

Remarks on Nephrectomy, With a Plea for the More Certain and Earlier Diagnosis of Conditions Requiring it, Charles P. Noble, Philadelphia.

Some Atypical Features of Certain of the Commoner Nervous Diseases, Theo. Diller, Pittsburg.

Stricture of the Rectum, William M. Beach, Pittsburg.

Tuberculosis Following Typhoid Fever, F. U. Ferguson, Gallitzin.

The Treatment of Tuberculosis, L. F. Flick, Philadelphia.

Intoxication from Toxalbumins and Other Toxins, Mary McD. Shick, Reading.

Myxœdema, Report of a Case, E. H. Small, Pittsburg.

Mechanical Treatment of Ptosis, E. B. Heckel, Pittsburg.

Treatment of Diseases of the Larynx by Electricity, J. M. Douthett, Pittsburg.

Acute Circumscribed Oedema, With Report of Cases, William B. Ewing, Pittsburg.

Report of a Case of Cerebellar Abscess, J. B. Crombie, Pittsburg.

The Scrubbing Brush, William S. Forbes, Philadelphia.

— — —, Charles W. Dulles, Philadelphia.

— — —, J. M. Taylor, Philadelphia.

— — —, Ernest Laplace, Philadelphia.

— — —, J. C. Wilson, Philadelphia.

— — —, J. M. Baldy, Philadelphia.

Special Discussion on Chronic Renal Disease—

Etiology and Pathology.

E. G. Matson, Pittsburg,

Prognosis and Treatment.

H. A. Hare, Philadelphia,

Referees.

General Discussion on above, opened by James I. Johnston, Pittsburg, and John H. Musser, Philadelphia.

Any papers delayed by mail that come into the hands of the undersigned by April 10 P. M.,

will be added to the list, and placed on the program.

S. S. Towler,
Chair. Com. on Scientific Business.

COMMITTEES OF THE CAMBRIA COUNTY MEDICAL SOCIETY TO ARRANGE FOR THE JOINT TOWN MEETING.

ARRANGEMENTS.

Dr. G. W. Wagoner, Chairman.

Dr. A. N. Wakefield,	Dr. F. C. Jones,
" F. B. Statler,	" D. W. Haight,
" L. H. Mayer,	" W. N. Pringle,
" H. F. Tomb,	" V. A. Murry,
" J. B. Lowman,	" J. A. Miller,
" J. C. Sheridan,	" J. J. Weida,
" F. U. Ferguson,	" O. H. Helfrick,
" C. Sheridan,	" B. F. Tomb,
" Geo. Porch,	" A. B. Kress,
" F. Schill, Sr.,	" W. B. Matthews,

Dr. L. W. Jones.

HALLS AND EXHIBITS.

Dr. A. N. Wakefield, Chairman.

Dr. J. C. Sheridan,	Dr. F. Schill, Jr.,
" W. E. Matthews,	" F. U. Ferguson,
" H. S. Troxell,	" H. M. Griffith.

PRINTING.

Dr. F. B. Statler, Chairman.

Dr. D. W. Haight,	Dr. S. E. Sloan,
" J. W. Hamer,	" Geo. Martin,
" J. H. Glass,	" J. H. Lynch,

FINANCE.

Dr. H. F. Tomb, Chairman.

Dr. F. Schill, Sr.,	Dr. W. N. Pringle,
" E. L. Miller,	" J. C. Blaisdale,
" R. Devereaux,	" H. Somerville.

ENTERTAINMENT.

Dr. L. H. Mayer, Chairman.

Dr. C. E. Hannan,	Dr. J. B. Woodruff,
" J. B. McAneny,	" F. C. Jones,
" W. E. Troxel,	" D. S. Rice.

RECEPTIONS AND HOTELS.

Dr. J. B. Lowman, Chairman.

Dr. E. H. Kress,	Dr. A. S. Fichtner,
" C. E. Hannan,	" J. M. West,
" E. J. Burkhart,	" J. S. Kuntz,
" J. W. Hamer,	" E. L. Marbourg,
Dr. E. L. Miller.	

MORTALITY IN THE LATE WAR.

Adjutant-General Corbin has issued a statement giving the number of deaths of soldiers enlisted for the Spanish war and the causes thereof from May 1, 1898, to February 28, 1899. It shows: Killed in action, 329; died of wounds, 125; died of disease, 5,277. Total 5,731. (Med. Record.)

**Monthly
Reports of County Societies.**

REPORT OF THE LUZERNE COUNTY MEDICAL SOCIETY.

At the Annual meeting of the society held January 11, 1899, Dr. Maris Gibson, who has been the efficient Secretary for about ten years, was elected President of the society. Drs. Walter Lathrop and F. A. Farrell were elected Vice-Presidents; Dr. Ernest A. Buckman, Secretary and Treasurer; Dr. W. R. Longshore, Censor for three years; Dr. Lewis H. Taylor, Editor and Librarian; Drs. W. W. Young and Charles H. Miner were added to the Executive Committee. Standing Committees as follows: Library and Publication, Drs. Taylor, Gibson and Johnson; Medicine and Surgery, Drs. Howell, Weaver and James; Health, Drs. Knapp, Long and Miner.

The Committee on Library, reported that 1,403 bound volumes, exclusive of pamphlets and unbound magazines, were now in the library, and that nearly a thousand of these had been added since the society moved into new quarters in November, 1897. While between two and three hundred of these had been purchased, the large portion of the accession had come from gifts of members and others, and from permanent loans to the library.

The society is indebted to a number of its members for the loan or gifts of valuable books and journals; also to Dr. I. H. Moore, Prof. Wm. Osler, Dr. Benj. Lee and Hon. Morgan B. Williams; to the latter for securing three volumes of the Index Catalogue and for having this society designated as one of the recipients of future volumes as they appear; also to Dr. Chas. McIntire, of Easton, for contributing six current journals to the reading room.

The library has had on file during a greater part of the year, the following medical journals, which have been furnished by members and friends without any expense

to the treasury of the society: *The London Lancet, The American Journal of Medical Sciences, The Philadelphia Medical Journal, The Pennsylvania Medical Journal, The Journal of the American Medical Association, The Medical News, The University Medical Magazine, The Monthly Cyclopaedia of Medicine, The Johns-Hopkins Hospital Bulletin, The Proceedings of the Pathological Society of Philadelphia, The Pacific Medical Journal, The Atlantic Medical Weekly, The Bulletin of the American Academy of Medicine, The Medical Fortnightly, The Medical Review of Reviews, The Journal of Cutaneous and Gen. Urinary Diseases, The Lehigh Valley Medical Magazine, Modern Medicine.*

These have been read and appreciated to a certain extent, but not so fully as they will be, as members realize that this feature of the library's work will be permanent. A number of the journals will be bound and added to sets already on our shelves.

The society appropriated an amount for the binding of books, and authorized the library, through its librarian, to join the American Medical Library Association, and contribute the amount of fee thereto.

After the business session, the society adjourned to the new Hotel Sterling, where the annual banquet was enjoyed, and many interesting speeches listened to, 'till a late hour, the address of the retiring President, Dr. J. Harris Jones, on "Some Stray Thoughts In and Out of Medicine," being read by Dr. Chas. Long, owing to the illness of Dr. Jones. At the meeting held February 1st, a paper was read by Dr. L. L. Rogers, on "Some Thoughts upon what Posterity has a Right to Expect of Us," and another by Dr. Chas. Miner, on "The Serum Test in Typhoid Fever."

The society starts out for the new year under favorable auspices and into greater strength and interest than ever. At the second meeting in February, Dr. Lewis H. Taylor read a paper on "Mastoid Disease," and Dr. Chas. Miner on "Echinococcus Cysts of the Liver," showing specimens of the same.

At the first meeting in March Dr. A. A. Barton read a paper on "Puerperal Asepsis," and Dr. Walter Davis gave a comprehensive review of the recent literature on the diseases of women. On March 15 Dr. E. D. Roderick read a paper on the use of extract of the supra-renal gland in operations on the nose and throat, a subject entirely new to nearly all the members of the society. Dr. Addison Rothrock gave a very interesting account of St. Lazare, Paris, of which hospital he was resident for some months. Since January first, nearly sixty new volumes have been added to the library, over twenty being the gifts of Dr. Geo. M. Gould, of Philadelphia.

*Lewis H. Taylor,
Editor and Librarian.*

REPORT OF THE ANNUAL BANQUET OF THE LANCASTER CITY AND COUNTY MEDICAL SOCIETY.

The Lancaster City and County Medical Society held its annual banquet at Hotel Rossmere on the 16th of March. Hotel Rossmere is a beautiful hotel in the north-eastern section of the city, on the Neffsville and Lititz trolley line, and is an ideal place for an affair such as this. The liberty of the place was extended to the members by the proprietor, Mr. John W. Hiemenz.

The banquet was one of the largest and most successful affairs of the kind ever held by the society and the eighty or more members present, together with a few invited guests, had a most enjoyable time.

The members were taken to Rossmere on special electric cars at one o'clock, and dinner began at two.

The president of the society, Dr. William Blackwood, was unable to be present on account of sickness and the honor of presiding fell to Dr. I. N. Lightner, 1st vice-president.

The meeting being called to order, the secretary read letters of regret from the president, secretary and chairman of the

committee of arrangements of the state society, who were the invited guests of the society, at not being able to be present.

After partaking of the excellent dinner provided, Dr. S. T. Davis presided as toastmaster, and toasts were responded to as follows:

"The Doctor and the Pharmacist," J. H. Redsecker, Lebanon; "Our Guests," A. M. Miller, Bird-in-Hand; "Our Own Society," G. W. Berntheizel, Columbia; "The Surgeon and His Duty," M. L. Herr, city; "Columbia, the Gem of the Susquehanna," Alex. Craig, Columbia; "Country Practice and the Blizzard," P. J. Roebuck, Lititz.

The following members were present, together with several guests from Lebanon and different parts of the county:

Drs. P. P. Breneman, G. L. Cassel, M. L. Davis, J. W. Kinard, J. F. Trexler, T. Q. Garvey, H. R. Bryson, F. G. Hartman, Geo. R. Rohrer, T. C. Detwiler, H. G. Hasenplug, M. L. Herr, G. R. Welchans, Thos. Ellmaker, Theo. B. Appel, S. T. Davis, Oliver Roland, H. M. Sultzbach, S. W. Miller, F. I. Biemesderfer, H. F. Myers, W. H. Herr, A. G. Bowman, M. L. Herr, E. B. Ilyus, R. M. Bolenius, Geo. P. King, J. A. E. Reed, and M. W. Gerhard, Lancaster city; E. J. Miller, Intercourse; Brainerd Leaman, Leaman Place; B. Kendig, Salunga; G. L. Alexander, Buck; P. J. Roebuck, Lititz; J. H. Redsecker, A. B. Gloninger, Lebanon; W. A. Keyler, Leacock; H. M. Alexander, Marietta; J. L. Hertz, Lititz; J. H. Musser, Lampeter; I. M. Witmer, Conestoga; A. V. Walters, West Earl; G. W. Berntheizel, Columbia; I. N. Lightner, Ephrata; T. E. Ingram, Marietta; L. M. Bryson, Paradise; A. M. Miller, Bird-in-Hand; J. J. Newpher, Mount Joy; B. F. Herr, Millersville; Wm. J. Wentz, New Providence; C. F. Markel, Columbia; George Frew, Paradise; W. Giles Hess, Furniss; T. M. Rohrer, Quarryville; A. H. Stubbs, Wakefield; G. C. Kinard, Lincoln; Alexander Craig, A. R. Craig, Columbia; J. H. Shenk, Lititz; H. E. Musser, Witmer;

S. A. Bockins, Columbia; J. M. Slaymaker, Gap; C. E. Helm, Bart; H. A. Mowery, Marietta; J. K. Hertz, Lexington; S. G. Grey, Landisville; W. S. Brenholtz, Columbia; J. M. Shartle, Millersville; J. S. Kreiter, Akron; T. M. Livingston, Columbia; G. A. Harter, Maytown; M. T. Reeder, Millersville; M. W. Hurst, Furniss; J. K. Lineaweaver, Columbia; S. M. Crawford, Columbia; T. S. Irwin, Christiana; L. K. Leslie, Bareville; B. F. Sides, Furniss; S. B. Koser, Mountville; Fred A. Achey, Petersburg; G. E. Day, Strasburg; Martin Ringwalt, Rohrerstown; J. R. Lehman, Mountville; J. D. Hershey, Manheim.

Park P. Breneman, Sec.

REPORT OF THE YORK COUNTY MEDICAL SOCIETY.

The regular monthly meeting of February was well attended, and the members present much enjoyed an interesting and instructive address on "Infant Feeding," by Dr. Griffith, of the University of Pennsylvania. Dr. J. Frank Small, followed with a paper on "One Hundred Cases of Diphtheria," of which the following is an abstract:

Dr. J. Frank Small, reported his views on the use of antitoxic serum in diphtheria, based on an experience in its use in 111 cases. He enthusiastically recommended its early use in every case of diphtheria. He described a classification of the cases from macroscopical appearance of the membranes, which was borne out by bacteriological examinations. He conducts his local treatment to throat as determined by the appearance of the membrane, thus: Given a case with the yellow buckskin-like membrane, you have a nearly pure culture of Loeffler bacilli to deal with. The antitoxic serum administered early, will be all the local treatment needed, for in six or eight hours you will discover locally the formation of the "red ring" or wall of protecting lymph around the patches of membrane—the bacilli soon leave their feeding ground, die and are cast off.

Given a gray membrane, yellowish gray, or whitish—here you have not only the Loeffler bacilli, but the troublesome streptococci to deal with. Your antitoxic serum will take care of the Loeffler bacilli, but you need a germicide applied locally, such as hydrogen peroxide.

In case of the presence of staphylococci, a rather rare occurrence, you will observe a soft yellow, butter colored, mucoid mass. The doctor rather condemned the local use as a routine of the old tincture of the chloride of iron mixture, on account of the exhaustion caused in its application.

In the use of the serum, the pulse is his guide, as to repeated dosage.

He lays particular emphasis on the necessity of the early administration of the remedy. It is regretted that we cannot here give a more detailed statement of the doctor's excellent reports. His mortality statistics are appended.

A number of the laryngeal cases were primarily pharyngeal, with secondary involvement of the larynx and four were really moribund when first seen. Seven of the cases being consultation cases, seen late, resulting in five deaths, none of these cases being seen the first day.

MORTALITY STATISTICS.

CASES DIPHTHERIA—NON LARYNGEAL.

Day of Disease.	No. Cases.	Deaths.	Mortality.
First	60	1	1.66
Second	22	0	0
Third	4	0	0
Fourth	1	1	100.
Fifth	1	1	100.
Total	88	3	3.40

CASES DIPHTHERIA—LARYNGEAL.

Day of Disease.	No. Cases.	Deaths.	Mortality.
First	11	1	9.9
Second	4	2	50.
Third	3	3	100.
Fourth and Fifth.	5	5	100.
Total	23	11	47.8.

Total No. Cases.....111.
No. Deaths.....14. General mortality rate..... 12.62 per cent

Discussion: Dr. A. A. Long advocates no more local treatment than mild cleansing douches and none of the

old heroic local measures. He believes the harm from the exhaustion induced by the excitement in making the local application to overbalance the good done. Dr. I. C. Gable believes in local disinfection, especially if instituted early; since the disease being primarily local, this would in a large measure prevent the toxæmia and septicæmia, necessitating constitutional treatment.. He thinks local disinfection may be done with no more excitement, than the injection of antitoxin and the latter if administered late may, from the excitement induced, be a dangerous procedure by causing paralysis of the heart. He is partial to one local application, consisting of one part of Monsel's solution and three parts glycerine, which not only prevents the formation of toxins, but binds up the lymphatics and prevents their absorption. Dr. W. C. Stick, speaking on the relative value of statistics, reported over one hundred consecutive cases of diphtheria, treated by bromine solution, with 100% recoveries, and later, a series of half dozen cases subject to the same treatment, with a mortality of 100%. From this he infers that sometimes a good showing may be made from practically no treatment at all, and statistics are only of value when extensive as to number of cases, localities and time.

G. E. Holtzapple, Cor. Sec.

WHY QUACKS ADVERTISE IN RELIGIOUS PAPERS.

Mr. Moody has an anecdote that will serve to show why it is that the pernicious advertising of quackery thrives so well in the so-called religious journals, namely, that "sick sheep" will heed the call of anybody. "Once upon a time a tourist was journeying through the Holy Land, and heard that there was a shepherd who still kept up the custom of calling his sheep by name. He went to the man and said: 'Let me put on your clothes, and take your crook, and I will call them and see if they will come to me.' And so he did, and he

called one sheep, 'Mina, Mina,' but the whole flock ran away. Then he said to the shepherd: "Will none of them follow me when I call them?" The shepherd replied: "Yes, sir, some of them will; the sick sheep will follow anybody." And blessed be those who, seeing the peril that awaits the sick sheep, and all other feeble folk, will refuse to allow the loud-shouting quack to shout through the columns of their newspapers.—(Jour. Am. Med. Assoc.)

Current Medicine.

SOME REMARKS ABOUT THE STUDY OF MEDICINE IN GERMANY.

Emil Amberg, M. D., Detroit, Mich., in an article upon this subject in *The Leucocyte*, in describing the examination for license and for a degree, says:

Only graduates of a gymnasium are allowed to study medicine as regular students. The gymnasium is a school which stands between a high school and a college. Every German is required to attend school at the age of six years. After having passed successfully the three preparatory classes, he can enter the gymnasium at the age of nine years and graduate from it at eighteen. In the gymnasium the study of Greek, besides Latin, is obligatory.

"The medical student has a choice between the nineteen university medical schools of the German Empire. The students in the German universities are not bound to attend lectures and clinics regularly, but as a rule the medical students are very hard workers. The student can remain in one place if he wishes to, but usually he studies in different cities; however, he is not allowed to change during the semester. The summer semester continues from April 15th to August 15th; the winter semester from October 15th to March 15th. These dates are not strictly observed. The advanced student is so occupied by clinical demonstrations, etc., during the semester that the time for vacation is welcome for theoretical study.

"The first four semesters—i. e., two years—are devoted to the study of anatomy, physiology, physics, chemistry, botany and zoology. The study of anatomy includes two courses in dissection (during the winter semesters). At the end of the fourth, or the beginning of the fifth semester, the student has to submit to an oral examination in the six subjects, to the so-called 'tentamen physicum, or 'medical pre-examination.' If he fails in any of these six subjects he has to repeat them, either at the beginning of the next or at the end of the same semester. He can apply for final examination only after having studied nine semesters, at least four semesters after having passed the pre-examination.

"The time after pre-examination is devoted to preparatory courses for clinical work, clinical work itself, pathology, pharmacology, hygiene, etc. As a rule, the student, now called 'cand. med.' (candidatus medicinæ) takes part at the clinics as an 'auscultant' for one semester; that means that he takes only a passive part in the clinic. The next semester he takes part at the clinic as 'practicant.' He is called up by the professor, has to examine a case before the students and answer all questions asked, and he also has to attend to obstetrical cases, etc. When he applies for final examination he has to prove that he has been a practican for two semesters in each of the following clinics, the medical, the surgical and the obstetrical, and one semester in the ophthalmological clinic; also, that he has delivered at least two women, and acquired ability in vaccination.

"The final examination is held by a commission appointed by the Government, consisting of some of the professors of the university, one of them being appointed as president. The examination is partly written, partly oral and practical, and is held on the following subjects: (1) Anatomy; (2) physiology; (3) pathology and pathological anatomy; (4) internal medicine and

pharmacology; (5) surgery and ophthalmology; (6) obstetrics and gynecology; (7) hygiene and vaccination. Only four candidates are allowed to be examined at one time. It would take too long to describe at length the requirements in all these branches. The examination in anatomy is practical and oral; in physiology, oral. The examination in these subjects has to be successfully passed before the candidate is allowed to proceed. The examination in pathology, internal medicine, surgery, ophthalmology and obstetrics is practical, written and oral; in surgery, two operations have to be performed on the cadaver. In internal medicine, surgery, and part of obstetrics, the candidate must appear before two examiners. In internal medicine, e. g., the candidate has to examine a patient, write down the history, diagnosis, prognosis, therapy, sign his name and deliver the paper before leaving the place. The paper is countersigned by the examiner. The next morning he has to bring an epical report, for which he is allowed to consult what literature he likes. He has to watch the patient for one week and write the record. During this week he has to give his diagnosis and opinion on another case (orally). He can be examined orally during the seven days by the professor as often as the latter chooses. The same course of examination takes place with the other professor.

"After having passed all branches the candidate is an approved physician and surgeon, and can practice throughout the German Empire. If he fails in one subject, or in one branch, he has to repeat this branch, but is not allowed to before six weeks have elapsed—twelve weeks for physiology. If he fails twice in the same subject, he is allowed to be examined the third time, at which examination the president of the commission of examiners has to be present. If he fails a third time in this subject, he is not allowed to continue his examination.

"The title of Doctor Medicinæ (M. D.)

is an entirely different thing. It is granted by the university and does not authorize the holder to practice. This is not even required by law, but, as a rule, everybody wants it. In order to receive this title a dissertation has to be written by the candidate, to be indorsed by a professor and accepted by the faculty. The candidate then chooses four professors, by whom he is examined orally. However, the rules followed in the examination for the degree are somewhat different in the various universities. Usually this examination is taken after the student is granted his license to practice; thus it is naturally impossible that a candidate can fail. Foreigners or candidates of medicine can pass the examination for M. D. in the eighth semester under somewhat sharper conditions."—(Medical Review of Reviews.)

"EMBALMED" BEEF AS AN ARMY RATION.

The recent developments concerning the furnishing of "embalmed" beef as an army ration adds another scandal to the management of our army during the late war. In some respects it is a repetition of the old story of fraud in the food supply of all armies when hastily put in the field, when speculation in big contracts is rife and when jobbers in the shape of huge trusts practically control the output. It is, in fact, one of the penalties of going to war without calculating the ultimate and inevitable results which, for want of preparations for emergencies, may befall the poor soldier at the extreme end of the line. The only fortunate thing is the fact that the struggle was short, and that the sufferings of the poor men for want of proper care in medicines and food were proportionately curtailed. From the quartermaster's standpoint the meat problem was one which was most to be considered, inasmuch as such food had to be shipped to long distances, purchased in job lots, and kept fresh in a warm climate. While it must be readily admitted that there were many difficulties in the way of

solving these questions, the transportation of beef on the hoof, which would have fulfilled all necessary conditions, was for some unknown reason not attempted. Refrigeration, which would have been excellent in its way, was impracticable for the reason that, when the frozen product was unpacked and transported to distant points of the field, decomposition would set in with remarkable rapidity. Canned goods, which appeared to be the only ones for proper preservation, were so imperfectly prepared that when unpacked they were found in most instances to be far advanced in rottenness.

Worse than all, however, was the unwarrantable experiment of adding chemicals in the shape of boracic and salicylic acids to prevent decomposition. The overwhelming testimony of such as used the "embalmed" beef is to the effect that it was offensive to sight, smell, and taste, was to the last degree unappetizing and unwholesome, and that in very many instances it produced much of the digestive troubles which so largely prevailed among the soldiers.

This latter state of affairs can be easily explained by the ingestion of the toxins of decomposing animal food on the one hand, and the constant admixture of chemical products with the food in question on the other. As there is no proof to show that boracic and salicylic acids are absolute preservatives, it is fair to presume that the "embalmed" beef was not only more or less decomposed but was artificially "doctored" besides. Thus the two conditions were combined to make the men sick.

Aside from the reprehensible practice of adding chemicals of any kind to food, there is a positive danger in so doing, in slowly poisoning the unsuspecting victim. Theoretically we may assume that either of the acids mentioned may not be used in sufficient quantities in any given case to produce immediately deleterious effects, but practically we must conclude that their continued use must be necessarily fraught with

harm in interfering with digestion, in arresting proper nutriment, in complicating secretion and eventually in irritating the entire intestinal tract. Boracic and salicylic acids are no component parts of the system, and are neither needed nor tolerated as distinct food requisites. Besides we know that under certain circumstances they are distinctly poisonous in their actions. Deaths have occurred from overdoses of both these drugs, and why should not smaller quantities, long continued, have a like effect? The contractors are willing, however, to inflict these risks on the mere reports of some analytical chemists who are seemingly paid in advance for favorable opinions regarding the actual healthfulness of these abominable adulterations. The chemist, expert as he may be in processes of analysis, is not a proper judge of the physiological action of drugs. The clinician is the only one who can determine such points. It is the difference between theory and practice in the forming of the proper conclusions. Doubtless when the reports are made by the surgeons who have had charge of the victimized men, it can be more properly determined what real harm this "embalmed" beef has occasioned. In any event a proper public sentiment will be created against the general principle of adulteration, by facts which will be brought out in the impending investigation. Morally and scientifically any form of food adulteration is always wrong, and the sooner the guilty jobbers can learn this, the better.—(Editorial, Medical Record.)

SMALL-POX AND TYPHOID FEVER.

The United States is now in the presence of an epidemic of small-pox, and the great city of Philadelphia enjoys the blessings of an equally severe epidemic of typhoid fever, the former due to the neglect of vaccination by the negroes and poorer classes of the South, the latter to the gross neglect of the water supply by the people who are supposed to be selected for the special purpose of

taking care of the health and other property of its citizens. But so busy have they been in quarreling over the loaves and fishes that no attention has been paid to the note of alarm sounded long ago by the best educated sanitarians of the city and country. The citizens have with wonderful equanimity seen the water supply constantly polluted by the sewage poured into it from many sources, have known that nothing was being done to prevent this, and comfortably re-elected the City Fathers who they knew were not engaged in the work for which they had been selected. We have seen the State Board of Health working with the City Board in locating the sources of this pollution. We have had an excellent report as to these matters, then the authorities whose duty it was to remove these causes of pollution quietly did nothing. The State Legislature when appealed to for an Act to prevent the pollution of domestic sources of water supply have failed to respond, lest they might interfere with some important manufacturing party, and so the work has continued; and we may look ere long for other smaller but equally important centres of population to suffer with the same disease. Now we are observing our people sick by the many thousands, dying in the proportion of one in ten, while those who recover are left in a doubtful state, perhaps never to regain their wonted health. Added to this we have the vast expense of the weeks of illness, with their concomitants, and we are told that it is highly objectionable that boards of health should publish the number of cases of illness, as calculated to cause panic, etc. In the midst of all this we are quietly preparing for a vast addition to our population, by urging certain conventions to be held here, by making preparations for an exhibition, in short, are asking others to come here and partake of the blessings bestowed upon us in the form of illness, perhaps death. Is this wise? Had we not better first make our house clean, then ask our visitors to come?

We may be asked for a remedy, but the only reply can be either drink no water from the pipes which convey this polluted water, or know that it is well boiled before being used as a beverage, or in fact, for any need requiring it to be taken into the system. The need of the hour is too great; we do not have time to wait for the work of putting in filter plants, or the inception of a new and safe supply.—(Editorial in Public Health.)

THE THERAPEUTIC USES OF THE SUPRARENAL GLANDS.

Bates (*Medical Record*) states that it is essential to remember that the active principle of the gland is incompatible with preservatives, and that it is weakened by heat; consequently it must be freshly prepared. Ten grains of the dried gland should be dissolved in two drachms of water and the solution filtered. The aqueous extract is the most powerful astringent known. A drop of the 1-per-cent. (above) solution instilled into the eye whitens the conjunctiva of the globe and lids in from forty seconds to two minutes. It has no anesthetic or antiseptic properties. For operations upon the eye it will relieve congestion, so that cocaine anesthesia can be instituted. In various inflammatory conditions its use is indicated. Stricture of the nasal duct, when caused by inflammation, is relieved, and other strictures may be benefited by it. In diseases of the skin, even when it is unbroken, local anemia can be produced, as in the inflamed skin of a burn, an eczematous patch, intertrigo, and it has been recommended to prevent the pitting of small-pox. In one instance of pernicious anemia it produced a marked increase in the number of red blood-corpuscles. Since this substance has been demonstrated to be a tonic to the heart muscles, and blood tension is enormously increased by its subcutaneous use, its employment is suggested in cardiac disease. The hypodermic injections may give rise to local pain: the use of it per os is somewhat uncertain. In one instance of

exophthalmic goitre there was decided improvement in the action of the heart and in the general muscular strength. The goitre almost entirely disappeared, the tremor was not very marked, and there was considerable gain in strength. The remedy is a pure astringent in all inflammations, and a hemostatic and a tonic to all muscle fibres, especially to those of the heart. It should be administered as an aqueous extract, a few drops being placed on the tongue.—(University Med. Magazine.)

CHRONIC INTOXICATION BY COFFEE.

Drs. Gilles de la Tourette and Gasne: Symptoms attributable to chronic intoxication by coffee have so far been rather overlooked by pathologists, though they have been thoroughly investigated by Guelliot (Rheims). They involve particularly the digestive and circulatory apparatus, and the nervous system; speaking generally, they are closely allied to those resulting from the immoderate use of spirits.

Caffeic dyspepsia resembles closely alcoholic gastritis, being characterized by phlegm in the morning, pain in the epigastric region with radiation towards the back, coated tongue, distaste for solid food, etc. At a more advanced stage, supervene nausea, vomiting, acid eructations, and ultimately cachexia. Our investigations prove, however, that coffee does not, as alcohol, determine either hæmatemesis or round ulcer.

The circulatory apparatus is also affected. Palpitation is rare, the most frequently occurring manifestation being recurring slowness of the pulse. The most important symptoms, however, involve the nervous system; there is insomnia, or sleep is accompanied by frightful dreams; when the patient stands upright he suffers from a sensation of emptiness of the head, and frequently from vertigo. At this period of intoxication there is marked tremor of the lips, which may extend to all the muscles of the face and tongue.

In addition, the muscles of the calf and thigh are affected by painful attacks of cramp, especially at night, which contribute toward making sleep impossible. These disturbances are not always merely subjective, as there is sometimes marked deficiency in the various forms of sensibility. Reasoning by analogy, we may, therefore, well ask ourselves whether chronic caffeism is not liable to give rise to paralyses, like chronic alcoholism.

Dr. Guelliot has also met with various disturbances affecting the genito-urinary apparatus.

Be this as it may, symptoms of caffeism are less persistent by far than those of alcoholism. Suppression of the poison is rapidly followed by subsidence of all these symptoms.—(Med. Week.—Pacific Med. Journal.)

MOSQUITOES AND MALARIA.

Ross, of the Indian Medical Service, makes a preliminary report on recent investigations he has been making as to the infection of birds by mosquitoes (*British Med. Jour.*, February 18). In part he says: Out of 28 originally healthy sparrows subjected to the bites of grey mosquitoes previously fed on diseased sparrows, 12, or 79 per cent., became infected, all with a very large number of parasites, in from five to eight days. This excludes a number of birds which died before the end of the incubation period from diarrhea and other diseases to which sparrows in captivity in Calcutta are subject. Out of the six birds which failed to become infected after these experiments, one was subjected to a second trial, which gave a successful result. Out of 2 crows and 4 weaver birds, some of which contained halteridium though none contained proteosoma, 1 of the crows and all of the weaver birds showed a copious proteosoma infection within nine or ten days of being bitten by grey mosquitoes fed previously on sparrows with the latter parasite. Out of 5 sparrows which originally contained a very few proteosoma, 4 showed a new and much

more copious infection a week after being subjected to a similar experiment. The attempt to transmit the proteosoma of sparrows to mainas and some other birds failed. In all the birds in which the parasites appeared after the experiment, the invasion presented such constant and unmistakable characters that no possible room for doubt was left as to the infection being due to the mosquitoes. The blood of the birds experimented with was examined both before the experiment and on several occasions afterward. He has not been able to study the reproductive elements of the mosquito stage of human gymnosporidia; but he considers that there is no reason to suppose that they differ much from those of the proteosomacoccidia, or that the modes of infection of human malaria are unlike those of avian malaria. The pigmented cells found in mosquitoes fed on blood containing crescents were exactly like those derived from proteosoma.—(Journal. Am. Med. Asso.)

WHY I BECAME A PHYSICIAN.

"It was the longing for certainty. Personally I should have preferred the abstract sciences, but there was so much dubiousness about them that I turned away, hungry for something positive. I felt that I must be doing something—I was ashamed not to be taking part in what is going on, as I should be on a boat in danger of a storm. . . I am an agnostic and do not pretend to say whether there is or is not a God, a future life, but as I thought it over it seemed to me that medicine harmonizes with all theories, even the most advanced Christian. . . What is duty? To help the suffering. Suppose the other theories prove true, to what would morality be reduced? To an instinct that impels us to associate with others, to help our neighbors and be helped by them, confronting a hostile nature. Who accomplishes this task better than a physician? He is the altruist par excellence. He is right, whichever metaphysic premise we accept. And this is so true that from the day when I first passed the threshold of the hospital, I have experienced a peace unknown before. I have the evidence that intellectually and morally I am treading on firm ground."—Paul Bourget: *Semaine Med.*, January 18. (*Jour. Am. Med. Assoc.*)

THE TIME IN WHICH GONORRHEA MAY BE CURED.

Lastly, let me say a few words as to the length of time for a cure by the treatment just advocated. I think that the public and the profession are to-day being grossly misled and deceived by men who claim that gonorrhea is cured in three, ten and perhaps fourteen days. I have seen very many of these so-called cures, and have found them to be failures (in many instances the patients being left in a deplorable and incurable condition), and many surgeons of high standing have informed me that they have had a similar experience. Having studied this subject in an unbiased and painstaking way for over thirty years, and having used all agents and methods of progress, I am firmly convinced that if a man is fully cured of acute gonorrhea in from four to six weeks he is a really lucky individual. On the other hand, I well know how readily many late urethral suppurations are cured, and I am firmly convinced that most of the extraordinary statistics of rapid-transit cures now so constantly and unblushingly paraded are based on the observations of these frequent relapses, which even the second-year student in medicine can cure very promptly.—(Extract from a paper in the *Medical News* by R. W. Taylor, M. D., of New York.)

CLEANSING THE HANDS.

In these days of asepsis physicians and surgeons are obliged to surgically cleanse the hands so frequently that it is very difficult to prevent their excoriation. During the past two months I have derived so much comfort from the daily use of a simple formula that I feel that its benefits ought to be shared with others. It was handed to me by Dr. W. H. Bergtold, and is as follows:

R	Bay rum,	cc 120,
	Glycerine,	cc 60.
	Acetic acid,	cc 2,
	Borax,	gm 1, Mix.

A moderate amount of this rubbed into the hands and forearms on going to bed has given me far more comfort than any similar lotion that I have ever used.—(Charles A. Powers, in *Colorado Medical Journal*.)

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Place of next meeting, Johnstown, May 16, 17 and 18, 1899.

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Original Articles.

AMYLOID DISEASE OF THE LIVER, WITH AN ABNORMALLY EN- LARGED LEFT LOBE.

By J. H. MUSSER, M. D., OF PHILADELPHIA.

Male, aged 72, colored. Laborer and clergyman. Admitted from the out-wards of the Philadelphia Alms House to the medical wards of the Hospital. Suffering from weakness and vague rheumatic pains. Social history: a moderately temperate life. Family history negative.

Previous history one of excellent health. Syphilis denied.

Present condition. On examination, to determine the cause of the weakness, the heart and vessels disclosed a general endarteritis with feeble heart sounds and impulse indicating no doubt the mural changes of myocarditis. The lungs were free from disease, and there was no disease of the brain

or spinal cord. On examination of the abdomen the liver was found to be enlarged. The right lobe extended from the seventh rib in the mid-clavicular line two inches below the umbilicus and in the anterior axillary line to within an inch of the crest of the ileum. In the median line the left lobe extended to the umbilicus. From its evident prominence above the surface, and the inability to outline its edges it seemed to be the seat of a large boss which occupied the entire region between the xyphoid cartilage and the umbilicus and extended from the mid-clavicular line on the left to the para-sternal line on the right. This seemed to be from time to time the seat of tenderness. The right lobe of the liver was smooth and the edges sharp and readily defined. The spleen was not palpable and did not seem to be increased in size. There was no ascites, and the gastrointestinal tract seemed to be free from disease. A careful search of the prostate, the

testicles and the rectum for primary carcinoma was made, without result. A similar investigation of other organs was negative. The enlarged liver seemed, therefore, to be the seat of a solitary mass in the left lobe which either was primary carcinoma or adenoma or, notwithstanding the negative history, a gummatous formation.

The first ten days of admission the patient gained in weight and strength, and was able to be out of bed. The liver seemed, however, to increase in size. The presence of a moderate degree of fever, however, seemed to indicate that the process was more active and by exclusion no other than that of gummatous process could be fixed upon. Exploration failed to disclose abscess or hydatid disease. Believing this process to be present the patient was placed upon a mixed treatment, and he continued to improve for a short time. He was under observation about two months, and in the last three weeks declined in flesh and strength, while the liver lessened in size to the extent fully of one inch. Symptoms of catarrhal pneumonia arose terminating in death on December 2, 1898. During the time the patient was under observation the urine, in three examinations, was of low specific gravity, contained a trace of albumin and some pale granular casts.

The temperature ranged between 99° and 100°, caused by the millary abscesses.

The post-mortem examination showed that the enlargement was due to amyloid disease, and that this process was present in the kidneys which were also cirrhotic, and in the spleen, which was enlarged to twice the size of that of a senile spleen, and doubled upon itself in such a position as to prevent examination. The mass in the epigastrium was the left lobe of the liver, abnormally enlarged and thickened to an unusual extent. The increase in bulk in this direction gave rise to the supposed tumor of the liver.

Abstract of autopsy notes: Liver is

enormously enlarged, extends $2\frac{1}{2}$ cm. to left of the right mammillary line. In the right 14 cm. below costal margin and in middle line $11\frac{1}{2}$ cm. below ensiform cartilage. In the left mammillary line it projects 11 cm. below costal margin; transversely from right to left hypochondrium and touches the spleen. Transverse colon lies below umbilical line, pushed down by liver.

Remarks: The interest of the case is increased by this variation in the extent and position of the enlargement, by the occurrence of fever, by the absence of an enlarged spleen, which is usually found in amyloid disease of the liver, by the confusion of the condition of the urine, which pointed both to cirrhosis of the kidney, as well as to amyloid disease.

The enlarged liver had the features of an epigastric tumor and appeared to be primary carcinoma of that organ or a large gumma. As indicated above, the enlargement in the epigastrium was due to a congenitally thickened left lobe. We have the elongated and tongue-like projection of the right lobe of the liver. I have never seen a congenital increase in thickness of the left lobe, causing an epigastric swelling. The amyloid disease must have been due to syphilis. Miliary abscesses were found in the kidneys and spleen. They were recent and could not have caused the disease. The blood showed anæmia and leucocytosis, the latter due to the infection, no doubt. The examinations are attached hereto.

October 11, 1898.—Reds, 4,000,000; whites, 12,800; hæm, 75%; polynuclear, 41%; small lymphocytes, 34%; mononuclear, 6%; transitional, 17%; eosinophiles, 2%.

October 20, 1898.—Reds, 4,240,000; whites, 14,080; hæm, 65%; polynuclear, 61%; small lymphocytes, 33%; mononuclear, 6%; transitional, 7%; eosinophiles, 3%.

November 14, 1898.—Reds, 4,800,000; whites, 15,000; hæm, 75%.

November 24, 1898.—Reds, 4,600,000; whites, 15,000; hæm, 38%.

Summary: Enlarged liver with undue epigastric swelling. No cause for enlarged liver. No evidence of amyloid disease elsewhere, or no symptoms of the affection. Diagnosis rested between carcinoma and gumma of the liver. On section, abnormally thickened left lobe, the seat of amyloid disease.

PARALYTIC DEMENTIA.

[Read at the meeting of the Allegheny County Medical Society, March 21, 1899.]

BY W. K. WALKER, M. D.,

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After inquiry from several of the older members, we have been unable to learn that paralytic dementia has been discussed at any previous meeting of the society. This fact, together with that of the practical importance of the disease, we offer as an apology for our endeavor to deal with the subject to-night. We are fully aware of the difficulty in presenting such a large subject within the reasonable time-limits of a paper before the society, and our treatment of it must, of course, be incomplete. But we have endeavored to be practical and we earnestly hope that the paper, together with the discussion which may follow, will be helpful to a few at least.

We can claim but little originality in this paper. Nearly all that we shall say may be found in text-books and certainly very much more. But we have, in our treatment of the clinical aspects of the subject, aimed to say only that which is borne out by our own observation in a not inconsiderable number of cases and more particularly (but by no means alone) by the detailed study of a series of twenty-five cases; and in so far as we have succeeded in this we may, in a certain sense, lay some claim to originality.

The subject has been divided for treatment, each having written the parts indicated by the sub-titles. The paper of each has been critically read by the other, and the ideas expressed separately, in the main, though perhaps not in all details—meet with the other's approval.

Paralytic Dementia—The Etiology and Symptomatology.

BY W. K. WALKER, M. D.

Regis defines general paresis as “a cerebral disorder, sometimes cerebro-spinal (diffuse, chronic, interstitial meningo-myelo-encephalitis) essentially characterized by progressive symptoms of dementia and paralysis (paralytic dementia) with which are frequently associated various accessory symptoms, and especially an insanity of the maniacal, melancholic, or circular type (paralytic insanity).

Since Bayle described this disease in 1822 it has been regarded as essentially chronic in nature. Esquirol had earlier noted in a general way the gravity of those cases in which dementia was complicated with paralysis, as well as the significance of defective articulation in prognosis.

The students of Esquirol,—Georget, Delaye, Calmeil—regarded the disease, which they variously described under the names of chronic muscular paralysis, incomplete general paralysis, and paralysis observed in the insane, as a special form of paralysis superimposed upon the insanity, in other words as a complication of an already existing mental disease; Bayle's theory set forth in 1822 that general paralysis is a true morbid entity and not a mere complication of insanity, gradually won adherents. Par-chappe described the malady in 1838 as a special form of insanity (paralytic insanity); following him, Requin in 1846 proposed a reconstruction of this view, suggesting that general paralysis may exist without mental symptoms; he described two forms: the one with intellectual disorders, the other with-

out such disturbance, and we find his observation corroborated by other alienists of his time.

Baillarger (1848) firmly endorsed the views of Bayle, namely the principle that the paralysis was an essential feature of the disease, pointing out the fact in addition that from the psychic point of view it is the dementia and not delusions that constitutes the essential symptom, and later (1882-3) elaborated the theory first proposed by him in 1858, in which he regards general paralysis as a cerebral affection made up of two distinct disorders which may exist separately or associated with each other; (1) paralytic dementia, the principal disease; (2) paralytic insanity, the accessory affection.

Regis supports the dualist theory elaborated by Baillarger; he says "I believe that the disease in its most perfect uncomplicated and essential type is represented clinically not by this or that delusional form, but on the contrary, by general paralysis without delusions, by a paralytic dementia essentially made up of a dementia and a progressive paralysis." Varied conditions of insanity accompanying the dementia he considers as superadded, impressing upon the latter cerebral condition certain special characteristics, the chief of which is a delusional state, at first ambitious, becoming as the disease progresses typically exalted and expansive despite the waning ideas.

Factors operative in producing this disease are epochs and countries, heredity, sex, professions; these as predisposing causes, with syphilis, mental overstrain, venereal excesses and the various intoxications as occasional or exciting causes. (Regis)

Paralytic dementia may be regarded as a disease of our later civilization and especially of the nineteenth century; fifty years ago it was considered a rare disease; to-day it is seen twice as frequently as twenty-five years ago. Since it follows in the wake of civilization we would expect to find it in the most highly civilized races.

and this is so markedly the case that some one has said, "its frequency in the various countries may serve as a measure of their civilization"—"The savage is free from it, the Asiatic is not subject to it, and the Irishman and Scotch-Highlander need come to the big cities of America to have the distinction of acquiring it." (Clouston.)

In the negro it is a rare disease and until lately was practically unknown; with indulgence in alcohol, increased frequency of syphilis, and stress from greater psychic demands made upon him because of altered conditions in his mode of living, it is to-day not infrequently seen. Of the twenty-five cases we have tabulated one is a negro; he presents all the characteristics of his race, yet his case is typical in all its manifestations.

The greater number of cases are seen in city asylums as compared with those drawing their population from the country, although it is to-day encountered in rural districts with greater frequency than in former years.

The heredity of paralytic dementia has for a long time been confused; it is still held by some that it has a common origin with insanity. Regis believes that it has its source in an heredity that is not vesanic but cerebral arthritic or congestive and notes that where paresis is seen in the issue of insane parents the paralytic insanity predominates over the paralytic dementia.

Naেকে (*Nouv. Centralb.* Sept., 1897) in a report of the results of examinations made upon one hundred male paretics, found a high percentage of abnormal heredity and the predominance of degenerative stigmata, and further that congenital peculiarities of character were especially common, holding the opinion also that non-congenital or heredity weaknesses are probably equally frequent. He concludes that the disease occurs in a predisposed brain, in those who are generally cerebrally imperfect, and that this predisposition, either congenital or *acquired through their lives*, makes them

ready victims to various exciting causes of the disease, chief among which seems to be emotional disturbance.

The sexes are very unequally liable to paralytic dementia men being affected from three to five times as often as women; its recent increase among women is more noticeable than in men and in them, as a rule, takes the form of simple paralytic dementia and is of longer duration; it is also much more common in women of the lower classes of society and this fact is attributed to the greater frequency of syphilis in this class. There have been described a few cases of *conjugal general paresis*, i. e., simultaneous affection of husband and wife, in all likelihood due to reciprocal syphilization. (Regis.)

Regarding the professions it has been observed that paralytic dementia affects most frequently those in the higher walks of life and particularly those who labor with their brains, lawyers merchants, brokers, physicians, politicians, etc.; it counts its victims to-day, however, with marked frequency among the lower classes. A study of the records of the Western Pennsylvania Hospital for the Insane reveals some interesting facts relative to the prevalence of this form of mental disease among the middle and lower classes as well as indicating its more frequent occurrence in recent years. In the forty-three years of the Hospital's existence there have been admitted 4644 men and 3513 women; of the men 188 suffered paralytic dementia; of the women but 7.

Divided into periods of ten years each, I find that during the first ten years ending April 1st, 1866, there were admitted 530 men of whom six were general paretics or 1.13 per cent; in the next ten years there were admitted 1156 men, 24 of whom were paretics or 2½ per cent.; in the succeeding period of ten years there were admitted 1104 men, 47 of whom were paretics or 4.26 per cent.; and in the decade ending April 1st,

1896, out of 1470 men 84 were paretic or 5.72 per cent.

No case of this disease among the women was recorded until that decade ending April 1st, 1896, when 6 out of a total of 994 women presented this form of insanity or .60 per cent. of those admitted during that period.

During the last three years, April 1st, 1896, to March 1st, 1899, there were admitted 439 men, 26 of whom suffered paralytic dementia or 5.92 per cent., while of 248 women admitted but one presented this form of insanity, less than ½ of one per cent. It will be noted that for the period of three years ending March 21st, 1899, the percentage of paralytic dementia among the men is higher than at any previous time, and this despite the fact that, owing to the crowded condition of the Hospital but few cases were admitted during ten months of this time.

In a total of 188 paretics, of physicians there were 10, lawyers 2, clergymen 1, civil engineers 2, brokers 2, chemist 1, merchants 7, book-keepers and clerks 17, salesmen 7, hotel and saloon-keepers 8, carpenters 6, mechanics (working in steel, iron, brass, etc. 37), miners 9, laborers 21, farmers 15, with the remainder representing such trades or occupations as shoemakers, saddlers, florists, barbers, tailors, carriage-trimmers, confectioners, etc.

I give these statistics only as indicating the prevalence and gradual increase of paresis among the middle and lower classes in this district.

Among the occasional or exciting causes, syphilis demands our consideration. Very discordant are the views regarding this, and it is still a disputed question as to the part played by syphilis in the production of this disease. Some state that nearly 90 per cent. of all cases are due to syphilis; others place it as low as 11 per cent. Krafft-Ebing speaks of syphilis as the most important factor and possibly as the one essential one (as likewise of tabes). Clouston (*Mental Diseases* p. 276) says "I do not think there is

any proof that it is syphilitic in origin." Somewhere between these two extremes the truth must be found.

According to Naecke (*Neur. Centralb.* Sept. 1, 1897) specific disease is not essential; it may be lacking, it cannot in any case be accepted as the sole cause and is generally only a predisposing factor in an already invalid brain, rarely a direct exciting one. Kellogg (*Text-Book on Mental Diseases*) says "Though inclined to accept the etiological importance of syphilis, I have only been able to positively establish the diagnosis of luetic infection in twenty per cent. of cases treated."

Collins (*Medical Record*, February 5, 1898.) speaks of the tripod syphilis, trauma and excesses, upon which rest the genesis of the disease. Any one of them being apparently a sufficient cause, but if the most potent one in conditioning general paresis, viz., syphilis, has added to it any one of the others, be it excess of alcohol, tobacco, sexual indulgence, overwork or any other form of dissipation, or if such a patient is subjected to physical or mental trauma, the danger that such a patient will develop paresis is enormously increased.

All acknowledge that syphilis plays an important part in the production of paresis but we note that those who question the supposed necessary relation between the two, lay greater stress upon other factors, and these are factors which are potent in the causation of nervous disease generally. We study nervous and psychic phenomena to-day in conformity with the same principles (though by different methods) as the phenomena of general diseases and we begin to realize their close clinical relations. Accepting the principle that, "All mental symptoms are produced by the action of the same causes of disease which act in other systems than the nervous," we must depend upon our knowledge of general pathological processes to solve for us many problems of mental pathology heretofore obscure.

Much evidence has been presented to

prove that many nervous conditions are due to perverted metabolism, and the part played by auto-intoxication in the causation of mental and nervous diseases is well established. As an exaggerated example of grave nervous symptoms caused by disturbances in nutrition I would refer to myxœdema, the symptoms of which are due to an absence of the normal secretion of the thyroid gland from the blood; it is attended by many symptoms of a trophic nature in the skin, hair and mucous membranes, also presenting marked mental symptoms which may progress to active insanity and to dementia, but we may, by supplying the patient with thyroid extract of the sheep entirely remove not only the physical but also the mental symptoms.

Interesting in this connection are the views of Kraepelin who classifies paresis with disorders of metabolism regarding it as due to a species of intoxication and even going so far as to consider it of the same nature as myxœdema. Likening the convulsions of paresis to the uraemic convulsions of renal disease, he says "we have to do with a poison which from its extensive action, must circulate in the blood."

Van Geisen has shown (Baltimore address) that parenchymatous degeneration in nerve cells is the same as in other organs; that the brain is built up on the plan of other complex organs, is subject to the same general laws, and suffers in the same manner since it is subject to the same conditions and pathological processes seen elsewhere throughout the body. The organism suffers injury from external sources (poisons received from without) or from poisons formed within the body by reason of disturbed or perverted metabolism due to perverted, excessive or insufficient action of important organs, which act upon one or the other of the different organs of the body, inflicting slight or severe injury, capable of being recovered from or inflicting permanent damage.

Berkeley, Andriezen and others have

shown that as a result of the action of certain poisons, such as alcohol, the nerves may become diseased and especially their processes.

We know that harmful substances, poisons formed within the body or received from without, affect equally the ganglion cells with the muscularis of the arterial wall; the irregularity in the blood supply of the brain thus produced still further increasing the damage. Apparently then either the capillaries, ganglion cells, nerve processes or interstitial tissue can be primarily affected.

It has been said that toxic causes of disease act earliest and most severely upon highly differentiated tissues or organs but differentiation alone cannot account for the differences shown in respect to this susceptibility for we know that physiological function is largely responsible. Those portions of the nervous system which functionally are the most active are most susceptible to injury. Weigert has shown that overwork and exhaustion may be potent causes of nervous disease, not only of functional but of an organic character; overwork of the neuron is attended by a shrinkage in its size and this shrinkage may be the first step in serious organic changes in nervous structure. He shows sclerosis in nervous structure to be a manufacture by nature of a supporting substance to replace an atrophied nerve cell or fibre; the process, when going on to organic changes representing causal factors in the following order, overwork, exhaustion, and atrophy of the neurons continued for a time and then followed by a growth of connective tissue in the form of a sclerosis.

Although it is a marked feature in the history of syphilis that it shows an affinity for attacking the brain and nervous system, why in one instance does it cause disease of the nervous centres as in paralytic dementia and locomotor ataxia while in the majority of others it develops its symptoms in the bones and joints and skin—Clouston

says it is because he has a neurotic constitution, which means that all causes of disease are attracted to his nervous tissues. "His brain cortex is his weak point."

Given this vulnerability of nervous tissue,—of his brain cortex we shall say,—the subject suffers paresis, not that one factor overwhelms his nervous centers but because of some general nutritional error, and accumulating evidence further illustrates the important part played by toxic disturbances of nutrition in this, as in other mental diseases.

I have but briefly referred to the views entertained by various investigators concerning the etiology of paralytic dementia; discordant though they appear, there are many points in which they agree and recent discoveries in the domain of neuro-pathology may go far toward establishing a unity among all.

We may assume that the subject of paresis succumbs not because of one overwhelming factor, but through the operation of several; the relative significance of each must be duly weighed; none can be disregarded and in all probability greater importance should be given that side of the question so closely bound up with intoxications and toxæmic conditions.

All we know of the pathology of paralytic dementia shows it to be a symptom rather than a disease; the pathology underlying it is a widespread degeneration of the gray matter of the cerebral convolutions most marked in the frontal lobes, but varying in character. There are lesions in the vessels, in the interstitial tissue or neuroglia and in the nerve substance proper.

It may be complicated with other focal lesions and systematic diseases of the brain and spinal cord and can occur as a complication during their course; the various combinations owing their development to a common cause or combination of causes.

Paralytic dementia often remains unrecognized during its early stages, although the appearance of a classical case as described in

the text-books may present no difficulties in diagnosis. The symptoms are far from being uniform, and in some cases certain symptoms which have been considered characteristic may be entirely wanting; particularly is this true of the early stages of the disease, the time at which it is most important to catch the disease process if we may ever hope to accomplish anything by treatment.

Paralytic dementia has been divided into three stages and the symptoms considered in the sensory, motor, and psychic spheres. As a rule, the earliest evidence of the disease is one of exhaustion in the highest mechanism of thought, first manifested in the neurons of association and their branches. Disorders of memory, judgment and reflection result, with perversion of the affective faculties and loss of the higher forms of self-control, as evidenced in changes of character.

The patient is seen to be a changed man, though in just what respect it is sometimes difficult to say; he may himself realize that he is not the man he was, that his mental processes are slower, memory dulled and his accustomed work accomplished only by great effort. There may be irritability of temper or a moodiness foreign to his nature; severe headache is common, and may be persistent throughout the course of the disease. The sleep function is often disturbed, there is capriciousness of appetite, and in fact all the multiform symptoms of disturbed or perverted nerve function.

In this pre-paralytic stage, which is often longer than is generally believed, the purely physical symptoms of neurasthenia may predominate, as shown separately by Voisin and Ballet; these are of decided significance, when seen in a man between thirty and fifty years of age, who has previously been healthy and not nervous, and, if supplemented by any of the characteristic symptoms of paralytic dementia, such as unequal and immobile pupils, lost knee-jerk, transient ophthalmoplegias, paralytic or

aphasic attacks, disturbances of articulation and optic nerve atrophy, the diagnosis of general paresis may be made with reasonable certainty. These latest named symptoms, and particularly reflex pupillary rigidity, may precede the outbreak of the disease for years as isolated symptoms, but this does not exclude the connection between the two.

It should be said, however, that none of these symptoms are pathognomonic; ocular symptoms, when present, are of the greatest significance, but they are not invariably found. Particularly misleading is the symptom of unequal pupils, a condition commonly seen in normal subjects, and with great frequency in functional nervous diseases; the same may be said of mydriasis.

After months or it may be years of vague prodromes, the characteristic symptoms of the malady are seen. Slight failure of memory develops into absolute forgetfulness; his mental operations become confused, he makes mistakes in spelling or in simple calculations, and is incapable of fixing his attention upon any one subject for any considerable length of time. There may be noted a condition of mental exaltation—looks at all things in a roseate hue—or there may be depression or hypochondriasis. He becomes careless in his personal habits and heedless of ordinary polite and decorous considerations; there is an unmistakable dementia which is the characteristic of the disease from its very inception.

Among the motor manifestations, we note slight disturbance of speech, fibrillary twitchings of the tongue, facial muscles and sometimes eyelids; ataxiform movements of the legs or arms, are sometimes seen—these latter incapacitating him from carrying on his work or trade, because of inability to perform finely co-ordinated movements. Other motor manifestations are tremors, spasms, changes in the reflexes—tendon and cutaneous—especially the cremasteric reflex; these are the most constant and invariable, and they may be the first as well

as the most conspicuous throughout the course of the disease.

There are also found hyperæsthesias, anæsthesias and analgesias of special sense organs, of the skin and mucous membranes, and tactile sensibility is dulled, but as the disease progresses, it becomes increasingly difficult to establish the fact of their existence owing to the condition of dementia.

The second stage frequently begins by an acute maniacal outbreak or congestive attack, followed by depression or stupor; we see a progressive accentuation of the symptoms mentioned, notably the dementia and the paralysis; speech becomes more embarrassed (ataxic and paretic defects of articulation), tremor of the facial muscles is observed, and there may be contraction of the nuchal muscles, and masticatory spasm. Congestive attacks with apoplectiform, epileptiform or paralytic seizures are frequent.

It is in this stage that psychical manifestations (paralytic insanity) are most marked; slight mental exaltation with sensation of well being becomes exaggerated into decided emotional exaltation or even maniacal excitement; from looking at things in a roseate hue he grows boastful and later exhibits characteristic delusions of grandeur—is a great financier, warrior, statesman, prophet or God, possesses untold wealth, etc.

There may be remissions, as in the earlier stages, i. e., disappearance of the symptoms of insanity, with persistence of the dementia. The other manifestations are still further developed and accentuated, and the patient arrives at the third stage of the disease, which is marked by dereliction of the sphincters; there may be retention of urine, or inability to retain either urine or feces.

The mental degradation is extreme; he remembers no one, expresses no emotion or want of any kind and ends by becoming bedridden. Trophic disturbances now appear (bed-sores, hæmatoma, etc.), and death soon occurs, either from the advancing physical failure (paralytic marasmus or

cachexia) or from some complication (incidental diseases).

This, briefly, is the clinical picture of paralytic dementia. It may present various forms, no two cases are alike; the psychic symptoms may be prominent in one, the motor in another; it is now generally believed that the motor type is more frequently seen than in former years, with, in many instances, milder or less prominent psychic manifestations. No satisfactory explanation of this has yet been given. We can only say that, depending upon varying degrees of involvement of different nervous regions, we have predominance of a certain group or groups of symptoms, psychic in some, motor in others, both present in varying degrees and combinations. Invariably is there seen, however, the condition of dementia so early noted as characteristic of the disease.

The authors of this paper have tabulated twenty-five cases of paralytic dementia, twelve of which are taken from the records of the Western Penna. Hospital for the Insane, five from St. Francis Hospital, one from the Allegheny General Hospital, and seven from the private case-book of Dr. Diller. In a study of these, we find positive history of previous leutic infection in but five, while in one other it was strongly suspected.

The constant symptoms are found to be, first, dementia, which is present in all cases but variable as to degree; second, defective speech, also present in all, varying from slight hesitancy in sounding certain letters and pronouncing certain words, to very marked paralytic defect. Of equal frequency with these are fibrillary twitchings of the tongue and facial muscles.

Only less constantly is found involvement of the reflexes—the deep being exaggerated in fourteen cases, normal in two, diminished or absent in four (unrecorded in the others); the superficial reflexes in the twelve cases in which they were recorded, were normally present in but three cases;

in all the others they were diminished, the cremasteric being either absent or but faintly marked.

Decided defect in pupillary reaction was seen in but twelve cases and nine showed normal mobility to light and accommodation (record not made in four cases). Inequality of pupils is seen in twelve cases, myosis in three, mydriasis in four.

Ophthalmoscopically, three out of eleven cases examined showed simple gray atrophy of the optic disc—two of these, however, presented in addition marked tabetic symptoms. Early neuritic changes were found in four, while those remaining presented no abnormality.

The Diagnosis and Treatment of Paralytic Dementia.

BY THEODORE DILLER, M. D.

It may be said of this disease, as of many others, that when it is well established its recognition is easy if its characteristic features be known; and that a positive diagnosis in its earlier stages or when it is present in atypical form is often difficult and sometimes, for a time at least, impossible. Paralytic dementia must be distinguished from several other forms of insanity and from several affections other than insanity. A patient may present very plain mental symptoms so that it is easy to say that he is a case of insanity; and at the same time the diagnosis of paralytic dementia may be a difficult problem. On the other hand a patient may present symptoms of nervous break-down and yet not manifest symptoms sufficient in degree and kind to lead the friends to think he is insane although the observant physician may be easily able to detect very distinct mental failure. In the first case the problem is to distinguish paralytic dementia from other forms of insanity and in the second case to distinguish it from one of several nervous diseases. Failure in the eyes of the laity, to

make the distinction in the second case is much more serious than in the first case since they regard all form of insanity as about equally hopeless. Cases of paralytic dementia are brought to the physician or are taken to the asylum because of symptoms of insanity which they exhibit; but many cases of paresis exist for a long time before presenting such conspicuous mental symptoms as to lead to the belief on the part of the friends that actual insanity exists.

The two most constant symptoms of the disease are dementia and paralysis, hence the propriety of the name, paralytic dementia. Whatever other symptoms may or may not be present these two are always present in the fully developed disease. There may be exaltation or depression or hypochondriasis, but there is dementia; and whatever somatic signs may or may not be present there is loss of muscular power. The dementia tinges all the other mental symptoms; and the paralysis accounts for many of the somatic signs, e. g., gait, tremor, speech, etc. Delusions of grandeur, when present, constitute one of the most striking symptoms of paralytic dementia, and while this symptom is usually present in some degree at some time during the course of the disease, there is a considerable number of cases of paresis in which it is absent or inconspicuous. The physician should therefore be prepared to make the diagnosis of paresis in the absence of delusions of grandeur. On the other hand it must be remembered that delusions of grandeur are seen in various forms of insanity as, for example, in mania, dementia and paranoia; so that their mere presence alone is by no means a certain indication of paresis. The feeling of *bien-être* is even more constantly present than grandiose delusions. The patient repeats that he is "well," "splendid," feeling better than at any time in his life, etc. This sign is often present when there are no delusions of grandeur proper and must be accounted a most valuable diagnostic sign. It has more than once been my experience

that after the nervous symptoms of a patient have been detailed that he himself protested that he was well—that there was nothing wrong with him. This statement constitutes a most significant hint as to the real state of affairs. This feeling of well-being with the non-recognition of symptoms plain to others, is then to be regarded as a diagnostic sign of very great value since it is rarely seen in any other condition and is quite common in paresis. Of the somatic signs the most important, from a diagnostic point of view, are the tremors of the face, tongue, and hands; the slurring or ataxic speech; and the spastic or ataxic gait; the exaggerated or absent knee-jerks; the altered hand writings and general clumsiness in movements especially those of a more delicate character.

Mere inequality of the pupils is a sign of no significance since it is too often present in normal individuals, but absence or slowness of response of the pupils to light or accommodation or the condition of myosis or mydriasis are valuable somatic signs.

Although paralytic dementia may present a superficial resemblance to mania, melancholia, hypochondriasis or simple dementia, it can usually be distinguished from these conditions with little difficulty especially if a good history of the case be obtainable and opportunity for repeated observation be had. It has been my experience, however, to have regarded for over a year a patient as a case of hypochondriasis who subsequently showed symptoms which made the diagnosis of paresis certain. In some cases the condition of mania may last for several weeks or months. The delusions of grandeur are more absurd than in simple acute mania and the history of prodromes and the presence of somatic signs together with dementia will serve to distinguish paresis.

Chronic alcoholism, the so-called pseudo-paresis—may very closely counterfeit real paresis. The delusions are more apt to be present and prominent. The speech defects are less prominent while the tremors

are more marked. The history of alcoholism should also aid in forming a diagnosis. In senile dementia the symptoms are apt to remain more or less stationary and this psychosis occurs at a time of life when genuine paresis is rare.

Organic dementia arising from brain tumor, abscess or apoplexy is not very apt to be confounded with paresis if the histories of the patients are obtainable.

Brain syphilis sometimes bears a close resemblance to paresis. But in brain syphilis the headache is more constant, the course of the disease is irregular; new symptoms are apt to appear suddenly and may indicate a localizing lesion. Tremor of the tongue and face and the paralytic speech are rarely present in brain syphilis. The paranoic commonly exhibits delusions of grandeur, but they are fixed, systematized, and are not so wildly extravagant as those of the parietic; and do not shift so readily and he does not exhibit dementia. If he is in an asylum he is able to see quite well that the other patients there are insane while the parietic cannot see this; moreover the somatic signs of paresis are absent and the course is much longer.

Paresis may be mistaken for epilepsy or apoplexy if the physician sees the patient during an attack for the first time. A history of the case would probably clear up the matter.

In its earlier stages paresis is often mistaken for neurasthenia. In neurasthenia there is nervous irritability, loss of endurance, fatigue, abnormal tire, and the patient fully realizes that he is ill while the parietic does not. There is not the definite dementia—psychical loss—as for example blunting of moral and æsthetic sense, loss of memory and judgment seen in paresis. The peculiar defects in writing and speaking and the facial tremulousness seen in paresis are not observed in neurasthenia.

In its earlier stages the diagnosis of paresis may sometimes be made with confidence in the absence of the somatic signs. I re-

call a case at St. Francis Hospital exhibiting moderate but distinct dementia and at the same time non-systematized shifting grandiose delusions which increased in dimensions until they became the most extravagant I have ever seen. There were absolutely no somatic signs present for a long time after these delusions had been established except a sluggish reaction of one pupil to light.

On the other hand the somatic signs may first attract attention when the mental symptoms are inconspicuous to the layman; but they are never absent in the fully developed disease. It is these cases which are so commonly mistaken for neurasthenia.

The diagnosis of paresis means so much that the physician should feel quite sure of his ground before making it and should not neglect to search for the various diagnostic points which characterize the disease.

There is perhaps no disease which is so uniformly fatal as paresis. Patients usually die in 2 or 3 years after the disease has been recognized; they occasionally succumb earlier but not a few live as long as five years. It is quite exceptional that they live longer.

The patient's friends should be carefully warned as to his entire unreliability to perform business or professional duties and as to the great risk he runs financially, if he be a man of means. All money matters should be taken out of his hands and he should have only pocket money. Most paretics must, sooner or later, go to the asylum. But while he can be cared for properly at home without undue risk to himself or others and without unduly taxing the energies of his relatives there is no especial need for the paretic to go to the asylum. Wealthy patients may, if the friends desire it, be kept at home throughout the disease. I do not think that it is right that paretics be kept in the asylum during remissions when these are of any considerable length. Travel is a useless expense and may, indeed, do harm. It not infrequently happens that a

paretic is bundled away on a long, ill-advised European trip, only to return in a worse condition than when he left. The paretic should, as soon as his disease is recognized, quit business and lead a life as free from worry and anxiety as possible. Residence away from home—at the seaside, in the country or mountains is desirable, if suitable arrangements for his care can be made.

The drug treatment is symptomatic: Tonic, laxative, hypnotic or sedative drugs may be indicated from time to time. Hydrotherapy is generally useful. The administration of iodide of potash in large doses as a routine practice is to be condemned. In paresis it can do harm and no possible good. Its administration is justifiable only when the diagnosis is uncertain, when there is a suspicion that the case may be one of brain syphilis; and this suspicion should be a reasonable one, not a devised one.

In the later stages of the disease, care should be exercised to avoid fracture of the bones for they are peculiarly liable to this accident. The liability of an epileptiform or apoplectiform attack must be borne in mind. After the patient has become bed-ridden, he is apt to develop incontinence of the bladder and bowels, and bed-sores. A water bed is desirable and it is needless to say that the care is a difficult as well as a disagreeable duty. Bed-sores will, of course, require dressing and the bladder may require washing out.

TO STOP NOSE-BLEED.

Grasp the nose between the thumb and forefinger and press backwards against the alveolar border of the maxilla and downward against the teeth. This compresses the *lateralis nasi* and septal arteries. Satisfactory results also follow the use of tannin and acetanilid.—(The Laryngoscope.)

Pilulæ Ferri Carbonatis, U. S. P., better known as *Blaud's Pills*, should be prescribed where an iron tonic is desired. They are required to be freshly prepared.

THE TECHNIQUE OF ABDOMINAL SURGERY.

BY CHARLES E. GIBSON, M. D., OF FREEDOM.

[Read before the Beaver County Medical Society, March, 1899.]

The technique of abdominal surgery begins at least 24 hours before operation, which should be done as soon as practicable. The so-called tonic or building-up plan, or in other words, to prepare the patient for an operation by giving this or that tonic, is in the opinion of the writer a very false one, because if from the nature of the disease or condition, surgical measures are indicated in order to give relief, we cannot reasonably expect much or any benefit from so doing, but on the other hand much valuable time may be lost. As early a date as possible having been set for operation, the patient should be subjected to a thorough bath, and the night before operation should be given a brisk cathartic, preferably epsom salts, and if three or four large liquid stools are not obtained within eight or ten hours, it should be followed by an enema of one-half to one ounce of salts in warm water and glycerin. Some operators follow this with one-half to one dram of bismuth, this later I do not consider essential. Before proceeding with the preparation of the patient, I should like to say a word as to the importance of seeing that the assistants prepared themselves in a proper manner; this I have had some difficulty in doing. You can all readily understand how one careless assistant can easily defeat the best operator. The hands and arms of operator and assistants having been thoroughly scrubbed, they should be immersed in pure alcohol, then washed in a solution of bichloride of mercury 1-1,000, and just before beginning operation, they should be washed with distilled water. Instruments, ligatures, etc., should be thoroughly boiled; dressings may be sterilized either by steam or dry heat. The abdomen of the patient should now be thoroughly

scrubbed, and shaved carefully, then washed with alcohol, followed by distilled water. The abdomen is covered with sterilized towels, and only the field of operation left exposed. If the operation is on the pelvic organs of the female, I consider the securing of the Trendelenburg position of the greatest importance. It facilitates your subsequent steps greatly by doing away with the bowel completely, besides bringing your field of operation into view by gravitation of the organs themselves, giving better light, and permitting you to deal with adhesions, bleeding points, etc., with greater ease. The incision is usually made in the median line, beginning one-half or three-quarters of an inch above the pubes, and of sufficient length to permit the operator's hand to pass in and out readily, and if circumstances or conditions warrant the incision may be enlarged to the umbilicus, or above if need be. The skin and subcutaneous tissues are cut through down to the recti muscles, the incision is carried between these two muscles to the subperitoneal tissue, or fat which is often absent. All hæmorrhage should now be arrested before the peritoneum is opened. This is done by picking up a small portion with small tissue forceps, or by the fingers of an assistant, and a very small opening made with scissors, care being taken to not injure the bowel, which will immediately fall back as soon as air enters the peritoneal cavity. Now the opening in the peritoneum can be enlarged with scissors the entire length of the incision. The next step is to secure its edges, which is done by suturing the peritoneum to the skin by placing a suture at either angle, and one about the middle of the opening. This is an important step, as it protects the edges of the wound from becoming infected, especially when pus is present, and even by contamination with other fluids, such as the contents of an ovarian cyst, which may reproduce itself in the line of incision. Dr. Landau reports four cases, one of which the writer saw, in

which a cyst developed in the line of incision from two to four years after the removal of an ovarian cyst. The contents of these cysts were the same chemically and histologically as the original ovarian cyst. The edges of the wound secured in this manner, the next step is the shutting off of the peritoneal cavity with large tampons of sterilized gauze, tied in large bundles. This is done by packing them in tightly; by this procedure the upper portion of the peritoneal cavity can be effectually shut off.

The removal of the ovaries and tubes, which, of course, is only done when actual pathological conditions are present, as the removal of the healthy ovaries, or the removal of ovaries the seat or result of inflammation without the tubes is unjustifiable surgery. The ovaries and tubes should be freed from any adhesions and drawn up, and the pedicle transfixed about its middle with a pedicle-needle armed with heavy silk, or cat gut properly prepared (preferably the latter); the pedicle is ligated in two portions the outer portion being first tied and cut short, then the inner portion of the broad ligament is tied, and the second ligature passed around both and tied; the ovary is now cut off with scissors between the ovary and ligature, care being taken to not get too close to the ligature for fear of its slipping. The tube is freed from its attachments and removed from the uterus by an elliptical incision into the muscle of the uterus, which is subsequently closed by one or two cat gut sutures; this effectually closes the uterus and protects the peritoneum from any subsequent infection.

All sponging should be done with pledgets of sterilized gauze, whether pus is present or not. The pelvic cavity is now cleaned and dried and the large tampons removed, also the stitches in the peritoneum, and the abdomen closed. This is done with either silk or silk-worm gut sutures placed about one-half or three-quarters of an inch from

the margins of the wound including the peritoneum, or the peritoneum may be closed separately with a fine cat gut suture. The sutures should be drawn sufficiently tight to get good co-adaptation of the edges of the wound, for if drawn too tightly they will simply cut through the tissues until a certain amount of tension is relieved.

Large sub-peritoneal and sub-mucous fibroids, either pedunculated or sessile, may be removed by incising the uterus and enucleating the growths as may be indicated and closing the rent in the uterine walls with cat gut sutures. Small fibroids, especially the sub-peritoneal, are best removed through the vagina. Interstitial fibroids usually require hysterectomy. Vaginal hysterectomy has taken such a prominent part in the surgery of the pelvic organs of the female, especially for malignant disease, uterine fibroids, pyo-salpinx, and by some surgeons for chronic metritis, salpingitis and ovaritis, that it may be of some use to speak briefly of the essential steps of this operation. The writer has had the privilege of doing and assisting in this operation in a small number of cases, and shall give the more important details as he saw them, which are as follows:

The external genitals should be carefully shaved and scrubbed, and the vagina thoroughly scrubbed with warm water and liquid soap, afterwards irrigated with a solution of bichloride of mercury 1-2,000, followed by distilled water. The patient is placed in the exaggerated lithotomy position and the ball speculum introduced. The cervix is seized with strong vulsellum forceps and drawn down as far as possible; an incision is made with blunt scissors around the cervix at the utero-vaginal junction, and the mucous membrane and fascia stripped off by the finger or blunt instrument, all the time keeping up a steady traction on the uterus. If the uterus does not come down readily, it may be of advantage to split the anterior wall as far up as the fundus; this gives more surface for the ap-

plication of forceps, but after the uterus is freed the chief point at this stage of the operation is the steady traction, completely anteverting the uterus and delivering the fundus first, and in case of pus tubes, which can easily be determined by tracing the tubes from the uterus, they should be now punctured and the pus evacuated. The tubes and ovaries are grasped with forceps and drawn down, or indeed the ovaries may be pulled entirely away.

The next step consists in securing the broad ligament, of which there are two methods, namely, by the ligature, and by the clamp. The former I have never done or seen done, so I shall only speak of the latter. The clamps may be applied from above downward, or from below upward, it matters not which. For convenience I shall say from below upward. The first clamp should have for its main object the securing of the uterine artery. The broad ligament is cut through between the clamp and the uterus with scissors. The second clamp is applied in like manner higher up on the broad ligament, and the ligament cut through; the third clamp secures the ovarian artery. Usually two or three clamps are required on either side before the uterus is taken away. The vagina is now cleaned and dried, and the upper portion loosely packed with iodoform gauze. The clamps are tied in one bundle and the patient put to bed. The clamps should be removed at the end of 48 hours and the gauze packing removed if much soiled, if not, it can be left for 48 hours more, and subsequent dressings changed as may be needed.

The after treatment must be conducted on general principles. In the small number of laparotomies which I have done, my plan, briefly stated, has been to give absolutely nothing as long as vomiting lasts, after which, thirst, which is particularly great after abdominal section, may be allayed by small sips of hot water frequently repeated. At the end of 48 hours I try

to secure a free movement of the bowels by giving 1 gr. of calomel every hour until the desired effect is obtained, after which one-half to one ounce of buttermilk may be given every three or four hours, and in four or five days, if all goes well, I permit solid food to be taken. The dressings I do not change until I remove the stitches, which is done in eight or ten days.

In conclusion, a word as to the operation for appendicitis. Sonnenberg says that the operation should be done as soon as the diagnosis is made. I do not think that this would meet with approval by the average American surgeon. However, after operation has been decided upon, the patient should be prepared as before described.

The incision should be made beginning about one-half inch above and a little external to the spine of the pubes, and carried upward and outward parallel with Poupart's ligament to a point just above the crest of the ilium. The muscles are cut through down to the peritoneum. The bleeding from this incision is insignificant. In the majority of cases the appendix can be dealt with without opening the peritoneal cavity; but, if necessary, it is to be opened in the usual manner. If the appendix, or abscess, is retro-cæcal, the incision can be extended around to the lumbar region. The wound is held open by large, broad retractors, and the appendix brought into the wound, and held by an assistant. The mesentery is now ligated with cat gut down to the cæcum, and cut between the ligature and the appendix. The peritoneum is cut through with a small scalpel around the appendix about one-eighth or one-fourth of an inch from the cæcum, and a suture passed through both sides of this peritoneal cuff, but around the appendix. The latter is cut off close to the cæcum, which is steadied by this suture, and tied over the stump of the appendix. The surrounding peritoneum is sutured over this suture, the former one being cut short, thus completely burying it. This process is continued until four to

six sutures have been introduced. These are similar to the Lembert suture.

The wound should be allowed to heal, in part, by granulation. A certain number of sutures may be used to close the wound at both ends, leaving an opening in the middle for drainage, which should be tightly packed with gauze prepared with lactate of silver. The ordinary sterilized dressing is applied in the usual manner.

The advantages of this incision are: The ease with which the appendix is found and dealt with wherever located; the superior drainage obtained, and the lessened liability of ventral hernia.

THE TREATMENT OF PNEUMONIA.

BY E. D. PAYNE, M. D., OF TOWANDA.
Surgeon U. S. Navy (Retired).

[Read before the Bradford County Medical Society, February 14, 1899.]

It must be very evident that in the discussion of pneumonia, the short space of time allotted me is very insufficient and unsatisfactory; for in no instance of disease is the question of its etiology, pathology and philosophy of treatment of more importance than in this. A disease which is looked upon with dread, not only by the sufferer, but by the physician in charge, with the gravest apprehension, which carries off every year a large number of persons, not only of the weak and feeble, old and young, but those in the prime of life, who are strong and robust, should be studied with the gravest care and clearest reason.

We have not time to study why of two or more persons, subject to the same conditions in every respect, one should be the subject of pneumonia, another of a common cold, and another not any deleterious consequences whatever. Neither have we time to study whether it is a specific disease, running a definite course, like scarlet fever or measles; self-limited in its nature; whether it is of microbic origin or not; or

whether a simple inflammatory affection or a general disease. And yet we should have definite and clear ideas on each of these points, in order to treat it with that judgment which it demands.

The main question before us is, Shall we treat it as a simple inflammatory affection, as it was fifty years ago, or, paying little attention to that, adapt our remedies to a general condition, letting the local inflammation take care of itself? If we adopt the theory of self-limitation, watch the patient carefully, give very little medicine, and trust to the *vis medicatrix nature*, hoping he will come through all right, are we safe?

Looking upon this theory as one tending to shorten the course of the disease and better tending to ultimate recovery, I contend it is a failure. It was propounded by Dr. Austin Flint some thirty or thirty-five years ago, at a time when the homoeopaths were claiming better results by their infinitesimal doses than the old school got by their bleeding and calomel.

If we accept the theory that it is a specific disease, running a definite course, we may say that it is self-limited. But as one that insures better results, I claim that it is a failure and has not reduced the rate of mortality. At least six different bacilli have been discovered as the origin of or propagator of the disease. Surely that is too many; one should be sufficient. I am not going to deny that bacilli in plenty have been found in this disease; but whether as cause, co-incident or product, I think may still be an open question. At least, so far as any effort that has been made by the use of this theory, to shorten the disease, insure success or reduce the rate of mortality is concerned, I am not aware that it has been successful.

Is the condition of the lung but a local manifestation of a general disease, especially typhoid fever? It cannot be doubted that in many cases of typhoid, pneumonia or an inflammatory condition of the lungs takes place, but is it a part of the disease,

or is it superimposed? If it is a part of the disease, why is it not as constantly present as any other one of the symptoms we rely on to establish the diagnosis? Or, again, why, in the treatment of a recently distinguished case in New York City, did the physicians, at least one of whom is a very distinguished practitioner, while admitting for two days that their patient had inflammation of the lungs, refuse to say he had pneumonia? Or did the reporters in this case misunderstand or misinterpret what was given them? If we accept the theory that it is a general disease, with local manifestation, I still claim that knowledge has not enabled us to reduce the rate of mortality.

In the formation of our judgment on this subject, we naturally ask ourselves some questions, as, for instance, How far are we in advance in results by our present methods of the practitioners of fifty years ago? Has the question of self-limitation, microbic origin or general disease, as understood by the best practitioners of to-day, helped to reduce the mortality or shorten the disease in any perceptible degree? Further than that: To what extent do the modern appliances and conveniences of our almost perfect hospitals, from which we get our statistics, with their corps of nurses, almost as scientific as the physicians themselves, affect the death rate in these institutions? And is it a fair showing for the disease that the death rate in these places be accepted as a criterion?

Each one of these points might furnish material for a paper that would occupy all the time allotted for this. So that at present I shall simply state facts as I conceive them to be, and regret that I have not time to so interpret them as to form a basis, or, more especially, a reason for what I may say.

And, first, I shall consider that we have to do with a case of croupous pneumonia of the sthenic type, as we understand that to be to-day. Let us say that it consists es-

entially of three stages: of, first, engorgement; second, hepatization, which may include red and gray; and, third, resolution. As a prefix to the first, some would recognize a condition of hyperæmia as a premonitory symptom. Our time will not permit us to enquire how we would recognize each of these conditions, or the pathology they represent. The case is before us, and as intelligent medical men we know where we are at.

We find the case in the first stage. There has been a distinct chill, of more or less severity. At present there are pain in various parts of the body, especially in the lumbar region and lower limbs; the face is flushed, and the head aches; there is a dull, aching pain in the region of the nipple, which, if not relieved, will be much more severe in the course of a very few hours; the respiration is labored, the feeling being that the patient cannot get a full inspiration; anxiety and general restlessness are manifest. He calls for help; to relieve the uncomfortable feeling in the chest, to quiet the pains, to relieve the nausea which is present, and allow him to get a few hours' sleep, that he may feel so rested as to go about his ordinary business.

What are you going to do? You say to yourself, Here are fever, high pulse, engorgement of a portion of the man's lung. He is in the initial stages of pneumonia. Whether it depends upon a local manifestation of a general disease or is a simple local affection, my first duty is to produce relief if possible. And how shall I do it? If I say to his family, "He has an affection that has got to run a definite course, has to suffer a good deal of pain, be watched carefully, but will probably come through all right," it will depend a good deal on how I stand in with that family as to how it will be received. If I am the old family physician, in whom they have full confidence, who has pulled them through many hard-fought battles, it may be all right. But if I am an emergency man, especially a new

practitioner, I may be met by the answer, "Why, doctor, it is only a bad cold; most everyone has a cold at present; I am sure if he only had something to loosen it up he would be all right." Well, cold or pneumonia, how many bad colds have proven to be severe cases of pneumonia? And how many cases of pneumonia, nipped in the bud, have been thought to be only cases of bad colds? Who shall say? Yet, if it be a case of specific disease, will it be possible to abort it, any more than if it were one of typhoid fever? Whatever it may be, the indications are the same: do something to reduce the fever, quiet the restlessness and pain, and induce sleep. Why? Because the relief of these, with the added sleep, strengthens the heart and nervous system. How? That is too large a subject to enter upon at this time. Now, what will best accomplish these results? I contend that Dover's powder is the remedy; that there is no other article in the materia medica that will accomplish such results as this at this stage of the disease. I believe its place has been too much supplanted of late by aconite, veratrum and acetanilid. The first produces diaphoresis, quiets pain and induces sleep, without depression; while the latter, each and all, do it by depressing both the heart and nervous system; and it is on these that we are to rely in our efforts to bring our patient through. But I would add to these a room of moderate temperature and a chest covering of cotton batting, covered with oiled silk. I have seen great results from the use of such applications in my own practice, not only in this affection, but in many other local ones. I used it many years ago, before I saw its use commended by men of authority.

But we have seen the case in the initial stage, and we remember he had a distinct chill before the fever became apparent; and we say that such a condition of affairs preceded by a chill indicates pneumonia, while a common cold, no matter how severe, though it may have initial rigors, does not

have a distinct chill. And so we make another visit in a few hours. We now find the head symptoms more pronounced, the pulse full, bounding, strong and tense, and the respirations more difficult. On putting the ear to the chest, the rales are found to be louder. The heart is having a difficult labor to perform. It has the same weight and volume of blood to carry through the vessels, but there are dams in those conduits, impeding its action, so that it is like trying to pump an inch stream through a half-inch hole. It is now that we must make our strong fight to save the patient. That heart must be helped to our full capacity to render it, if we wish to bring about a successful issue; for if the heart gives out, the case is hopeless. But how shall we give this assistance? This is the important point for consideration at present. There must be no hesitation or delay. No saying, perhaps if we continue the present treatment he will be better when we call again. He may, but the probabilities are that he will not. Well, three different procedures present themselves: First, produce more diaphoresis, if that has already been established; if not, then try to induce it. But will producing diaphoresis lessen the volume of an inch stream which the heart is trying to pump through a half-inch hole? Second, strengthen the heart to do its work by giving strychnine. But you know that strychnine acts by strengthening the walls of the heart; the impediment is still there; the blood cannot be forced through; and the harder we make the heart work, the sooner it will become exhausted. But you say, "Why not try quinine?" I believe quinine to be a delusion and a snare in all such cases. I do not believe in its use simply to reduce temperature. If the temperature depends on a condition upon which it has no effect, why use it? Especially do not do so in cases where head symptoms are pronounced. I believe I have seen very grave results from such use; turning them into violent delirium. I think quinine has but

two uses: First, as an antiperiodic, in large doses, and, second, as a tonic, in small doses.

The third procedure is to lessen the volume of blood the heart has to lift, thus lessening its labors; thus lessening the amount of blood to be forced through the capillaries of the lungs. I am free to say this seems to me the most reasonable measure to adopt. The old practitioners claimed for it the almost immediate lessening of the force of the pulse, with corresponding slowness and softness and relief to the respiration. I do not doubt that the constant hammering of the homeopathists and hydropathists, together with the disposition of the laity to believe their fallacious reasoning very readily, had much to do with the abandonment of this excellent practice on the part of the older order of practitioners. The blood of man is the life thereof, was a cry well received; and it was not considered there might be conditions where, even if this were true, there could be too much blood.

If, then, this will do what the older practitioners claimed for it, and there is abundant testimony to that effect if I had time to quote it, the fight for life is more than half won when a free venesection is performed.

O, yes, there is a fourth procedure to be taken into consideration, and that is to open the arterioles by aconite or veratrum. This is done by a process of relaxation, if I rightly understand it. Bore gimlet holes where an auger is needed. But does not the same method relax the heart as well, and so weaken its action? Can any of you who have seen the immediate relief given to an apoplectic brain doubt the effect on an apoplectic lung? A case has been related to me, though not within my personal knowledge, of a man suffering with an apoplectic lung and wild with delirium. His physician sat by, longing to bleed but hesitating. While still hesitating, a profuse epistaxis took place. When it was over a great change in his condition was immediately manifest, and his mind was clear.

Ah, but pneumonia is not simply engorgement, as our new theorists say. It is that, plus something more. What that something more is they have not yet satisfied us of. To discuss that question we would have to study the whole subject of inflammatory action, which we cannot do at present.

We now pass on from the stage of engorgement to that of consolidation, in which we may include both red and gray hepatization. What shall we do? The fever continues; the pain may not be so great; the respiration is labored; the countenance is anxious; and the nervous system is depressed. Oxidation cannot be properly performed, for one lung at least cannot perform its function of areation. It may be said the whole road is blocked and there is no thoroughfare. Shall we rest contentedly on our oars, waiting for the resolution which some of our teachers tell us will surely come as a part of the general plan of a self-limited disease? I am very much afraid you will find, in this plan, a self-limitation not to your credit; and it may be limitation of your practice in that family, especially if you are a young practitioner. I hope to do something with this question of so-called crisis at another time.

It is also at this time that our friends, the bacilli, present themselves for notice; but we cannot give them time either as cause, co-incident or consequent. They did not bother our older practitioners, who proceeded to feed them on calomel. Now, whether the calomel killed the bacilli or took away their food and so let them die, does not much matter; but one thing is certain, viz., the calomel did the patient a deal of good, the bacilli got out of the way, and the patient got well as often then as now, and I don't know but oftener. So our old-time practitioners, so much behind the present age of scientific research, found that calomel, in small doses, especially if combined with opium, or opium and ipecac, was a very potent help in time of trouble,

though it might be an abomination in the sight of present practitioners, if not in the sight of the Lord. But is there a better germicide than the preparations of mercury? Whether they act as a germicide or resolvent, or whether resolvent action is simply death of bacilli, I do not care to inquire at present. It is sufficient for me to say they have given me satisfaction, and I believe they will give you the same. If resolution progresses slowly, to these may be added potassium iodide or ammonium muriate. I have found the latter very serviceable in all cases where I wish to change a congested condition of a mucous membrane to one of normal activity.

But your case is now doing very well, and is passing from the stage of consolidation to that of resolution, though you still watch him anxiously. It is easy to see that he has had a hard fight; his whole body is tired from it; his heart is weary and cries for rest, for it does its work languidly, and now and again acts as though it would rest. Sometimes it will almost stop on a half beat, and then remembering that if it stops life ceases, it jumps to activity again. This is a time for great wisdom and discretion. What would you do? I say I would give alcohol in the form of whisky or brandy with a liberal hand. Do so, and I believe you will find your faith justified by experience. I, myself, once brought a case of double lobar pneumonia through from this stage, that had been pronounced fatal, by giving hardly anything else than beef tea, whisky-punch and brown stout or London porter. "O, but," say our anti-alcoholic friends, "that is the most dangerous procedure you could adopt. Alcohol is a poison under any and every variety of circumstance. Why whip up an already jaded heart? Do give it the rest it so much needs." "Not so rapid, my good brother." I said, "Give it with judgment and discretion." "What is that, and how is it measured?" The pulse itself is the measure of necessity. So long as you find the pulse

becoming fuller, softer and slower, you are doing good work. I think you will not only find this, but also that it acts as a sedative and tonic. The mind becomes calmer, the skin softer, the general restlessness gives way to quiet, and

"Nature's sweet restorer, balmy sleep,"

helps the nervous strain. To this should be added such gentle laxatives as will keep the bowels open, with a free laxative at the start, if they should show inactivity. The diet should be simple, nourishing and bland. Eggs, milk and broth will be sufficient. Not only sufficient, but heartier food should not be allowed. It must be remembered that the system is in no condition to digest solid food and assimilate it. It has had its full share of work in trying to pull through the fight it has had on hand, whether you call it killing microbes, expelling poisons or subduing inflammation.

Another point, which may not seem of importance, and may not always be within your control, as it would be in hospital practice, is the temperature of the apartment. Let that be, as a rule, very moderate, neither hot nor cold. I would say that a temperature of 65 degrees to 70 degrees F. would be about right. But, under all conditions, the feelings of the patient should be accepted as a good guide. It is quite a mistake to suppose that a high temperature in the room must be maintained for the good of the patient. What should be avoided are sudden draughts. I once lost a case that was convalescing nicely by the nurse of the ward opening the windows and mopping the floor while I was away from the house.

From what has already been said, it may be inferred that I do not approve the plan of cold packing the chest, as has been tried in some instances. This method can only be successful where every appliance of comfort and necessity are at command. It is true that a case of pneumonia that was apparently in articulo mortis was restored to life by packing in snow, has been reported

in the daily papers. I think it will need the happy ending of more than one such case to commend the practice to careful consideration on the part of physicians. Years ago I found that I could restore capillary action quicker and with more comfort to my patient by the use of warm application than by cold. As I said before, I used the cotton batting jacket with a covering of oiled silk a good while before I saw its use advocated in the journals.

DIPHTHERIA.

By JAMES GASS, M. D., OF SHEFFIELD.

[Read before the Warren County Medical Society, March 14, 1899.]

Of late years there has been very little discussion of this dread disease that does not center around its treatment by antitoxin, either for or against. In reading the journals we find a great deal of testimony in favor of it and some against, and taking the evidence both for and against, it must be conceded that it is not by any means a specific in every case in which it is used. This may possibly be due to the fact that there are so many different makers, each having a standard of their own, so that the dosage is somewhat of a matter to be left to the judgment of the individual practitioner. It is not my intention to give you anything new on diphtheria or its treatment, but merely to give you a little of my own experience in treating it, both with and without antitoxin, and to call forth a discussion which may be a benefit to us all. From January, 1895, to October of the same year, I treated five cases of diphtheria with three deaths. They were all treated according to the accepted treatment in general use before the discovery of antitoxin; that is, local antiseptic applications, hydrogen peroxide, carbolic acid solution or bichloride of mercury, with internal treatment consisting of small doses of mild chloride of mercury, alcoholics, iron, potassium

chlorate, strychnine and digitalis, if indicated for heart weakness. I was beginning to think, that as far as diphtheria was concerned, I was not much of a success, and when in December, 1895, I was called to another case, I resolved to try something different, and as antitoxin was then receiving a great deal of attention, I tried it, and the case recovered. Since then I have had nine cases with nine recoveries, all treated with antitoxin. Of course, I think it would be folly to depend altogether on antitoxin and neglect other means. I therefore continue to use local antiseptic applications, tonics, and heart stimulants. Whether this change is due to antitoxin or simply a change of luck, if there be such a thing as luck, I leave you to determine.

Now as to a comparison between these two sets of cases as to severity. Some of the fatal cases treated as I have described did not appear to be as severe from a clinical aspect as some of the cases which recovered under the use of antitoxin, and a comparison between those that recovered of the first, and those recoveries of the second set, teaches me that the throat cleaned off quicker under antitoxin, and convalescence was established quicker than under simply antiseptic and tonic treatment. In all my cases treated with antitoxin the throat cleaned off and convalescence was established in six to eight days, while with antiseptics, etc., it generally took two to three weeks.

There are certain drawbacks to the use of antitoxin, among which may be mentioned abscess at site of injection, albuminuria, and a rash resembling some of the acute exanthematous diseases. I have never seen an abscess from this cause, as I always have used strict antiseptic measures before inserting the needle, and use a coating of iodoform collodion after. The first two cases on which I used antitoxin did have severe albuminuria, but recovered without any bad after effects. On these two cases I had used the imported serum, but since that I have

been using domestic and have had no further trouble in that way.

One of my cases developed a rash which looked a great deal like measles, but it soon faded without any other untoward symptoms.

The dosage in these cases has been 1,000 to 1,500 units, according to age and severity, repeated in twelve hours. In one case I repeated the dose the third time.

Some writers say that alcohol must be given in nearly every case of diphtheria, but since using antitoxin I have not used a drop of it, relying altogether on strychnine where a heart stimulant and tonic was needed.

Besides the nine cases of my own, I have in the past few months been called in consultation in five others, on all of whom antitoxin has been used, with equally as good results, as with my own cases.

TYPHOID FEVER.

Dr. Osler, of Baltimore, in an address on this subject before the New York State Medical Society, laid great emphasis on the fact that for very many years the medical profession had been fully alive to the true nature of typhoid fever. One fact stood out with special prominence—*i. e.*, that with clean soil and pure water typhoid fever disappeared. While many advances had been made in the treatment of this disease, they had been nothing compared to the triumphs of sanitary science. The medical profession could point to typhoid fever as the best understood and the most carefully studied of the acute infectious diseases—the one in which the greatest victories in hygiene had been won. But in spite of these triumphs, we had had a rude awakening last fall in the many soldiers who fell victims to this dread disease. Ours was a nation, Dr. Osler said, of contradictions and paradoxes—a clean people, careful in personal hygiene, but reckless regarding public sanitation. Dr. Smart, the great authority on hygiene, recently made the statement that the cities of this country, as regards the matter of

water supply, were at least a century behind the cities of Europe. In organized sanitation Michigan was one of the model States. The problem of typhoid fever, Dr. Osler declared, was no longer in the hands of the profession; even the lesson of the late war had probably not been bitter enough to teach the public that sanitary science should come within the sphere of practical politics. Our good-natured citizens, who always voted a straight party ticket, were not deeply interested in the problems of sanitary science; they were more easily led by a Perkins or a Munyon than by a Lister or a Koch. Our glorious land has been recently described as “God’s own country, with man’s own backyard, and the devil’s own cesspool.”—(North Carolina Med. Jour.)

GERMICIDAL PROPERTIES OF BLOOD-SERUM.

F. W. White, in the *Boston Medical and Surgical Journal* of February 23, 1899, gives a report of a series of experiments upon the germicidal properties of human blood-serum, together with a review of the literature up to this time. He summarizes his conclusions as follows:

1. Human blood-serum differs greatly in its germicidal action upon various kinds of bacteria.
2. Experiments indicate that normal human blood-serum is not actively germicidal for the staphylococcus pyogenes aureus or the streptococcus pyogenes.
3. Human blood-serum does not lose its germicidal power for typhoid and colon bacilli, even in the late stages of chronic wasting disease.
4. Human blood-serum in fatal disease occasionally loses part of its germicidal power for the colon bacilli shortly before death, but more frequently retains the germicidal power for this bacillus for several hours after death.
5. A weakening of germicidal power of the blood-serum shortly before death undoubtedly favors an agonal invasion of the body by the colon bacillus.—(Medicine.)

... THE ...

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PITTSBURG, MAY, 1899.

THE SECOND VOLUME OF THE JOURNAL.

With the present number the second volume of the Pennsylvania Medical Journal is completed. The increase in size, of eight pages, over the monthly issues of the first year has made it possible to insert many papers read at meetings of county medical societies throughout the State. Indeed the transactions, pure and simple, as related to the meeting in Lancaster, were all published during the year 1898 with the exception of one paper.

It should be a matter of gratification to the society that so many good papers read at meetings of county societies were available for the Journal, thus offering to all of the members of the affiliated societies, now numbering 3,243, the benefits to be derived from them. The addresses and papers read at Lancaster were published, as was the case in the previous year, in the order in which they were presented at the meeting, except in the case of those previously published in other journals. These, in keeping with the plan outlined in the report of the Chairman of the Committee on Publication, were withheld until all of those not elsewhere published, were ex-

hausted, after which they were inserted in the order of their delivery. This system, it is believed, is based on a just discrimination, under which all papers are brought to the attention of the readers, at the earliest possible time. It is worthy of note that all of the papers offered, were of an unusually ethical nature, in the perusal of none of them was the reader shocked by the discovery that the article was a covert advertisement of some proprietary preparation, as is so often the case in journal articles.

In undertaking the publication of the transactions, it was one of the main objects of the editor, to demonstrate that a medical journal could be published in strict accord with the code of ethics, with regard to the publication of advertisements of proprietary medicines, whether they be patented, trade marked, copyrighted or in other respects subject to exclusive ownership. Not only should there be no secrets in medicine, but all measures and means that possess curative properties, or are valuable for the relief of the sick, should in every respect be the absolute property of the profession. The pages of the Journal, both text and advertising matter, will testify to the thoroughness with which this principle has been carried out.

While the increase of interest taken in the Journal, by the various county societies is gratifying, much more is possible. Reports of meetings, notes and news items, should be a more prominent feature in the Journal, and would lend interest to and perhaps stimulate many outlying societies. With this end in view, published only in the interest of ethical medicine, the Journal's future usefulness is assured. K.

THE COMING MEETING AT JOHNSTOWN.

For a variety of reasons the meeting of the Medical Society of the State of Pennsylvania, May 16, 17 and 18, should prove a successful one. The place of meeting is

easy of access from all parts of the state, the railroad facilities being unexcelled. The city itself possesses many features of interest. Its mountain location, with the picturesque scenery on all sides stands in strong contrast to the surroundings of the usual places of meeting.

To many members of the Society the scenes and incidents of ten years ago, when the whole country was overwhelmed with horror at the terrible calamity which befell the mountain city, will be vividly recalled. The feelings of the physicians of Johnstown in this connection, can perhaps best be described by the words of Dr. Wagoner, in his address, relative to the great flood, delivered the succeeding year at the meeting in Pittsburg, as follows: "The delegates from the Cambria County Medical Society come to this meeting charged with the duty of testifying to the noble charity of the physicians of Pennsylvania whose representatives are here assembled. To them the majority of the members of our society owe a debt which can only be repaid with gratitude. * * * In all the wealth of charity which was lavished upon our despairing people, there was none so free, so prompt, so kindly tendered as that from the physicians of Pennsylvania to their brethren in the Conemaugh Valley." Nature's kindly influences have worked a wondrous change during the decade following the flood in reanimating the survivors, though many a stricken heart bears its burden of sorrow and bereavement.

Delegates to the meeting should be careful to procure credentials signed by the proper officers of the respective county societies as required by the rules of the State Society and permanent members, not delegates, should be provided with certificates of good standing, signed by the secretary of the county society of which they are members. Information regarding hotels, railroad rates, etc., is found on page 603 of the April Journal. The program,

reproduced in this issue and arranged in keeping with the time of delivery of the addresses and reading of the papers is in evidence of a profitable and interesting meeting and the social entertainment provided by the Cambria County Medical Society will leave nothing to be desired to make the occasion a successful one in every respect. A special feature of the last day's meeting will be a discussion on chronic renal diseases. No subject could have been selected that would offer more profitable discussion which, coupled with the authoritative standing of the referees and the members delegated to open the general discussion, assures results of a high order.

K.

ABNORMAL GROWTHS OF THE BREAST.

One of the most perplexing questions which frequently confronts the physician, is to arrive at a decision as to the nature and treatment of new growths of the breast. The fact that many such growths may be of a cancerous nature, makes a correct diagnosis of unusual importance to the patient, so much so that some authorities advise the excision of all such suspicious growths. It is questionable, however, that such a course is warranted, for it is a matter of abundant experience that many circumscribed enlargements of the breast disappear spontaneously, while others remain quiescent, or at the worst increase very slowly for many years.

A valuable contribution on this subject, entitled "notes on cyst of the breast," by Dr. William T. Bull, has recently appeared in the *Medical Record*. During the past fourteen years, he has seen thirty-nine cases of cystic tumors of the breast, from which he draws his conclusions. The majority of these occurred in women between forty and fifty years of age, though some occurred in cases under thirty years. In size the cysts varied considerably, and in a number of cases two or more were present; in two cases an enlarged axillary

gland was also present. The following points are considered as being essential in arriving at a diagnosis:

"They have a sharply rounded outline, with smooth surface and a feeling of elastic resistance on palpation between one finger and the wall of the chest, the patient being recumbent. The skin is never adherent nor wrinkled, though it may be tightly stretched over the cyst wall and the superficial veins enlarged. An enlarged but soft gland is occasionally felt in the axilla. The nipple is normal, and there is discharge from it only very exceptionally. The history of slight twinges of pain with brief duration of the tumor, suggests strongly the existence of a cyst, for small cancerous deposits are usually not painful. * * * The story that the tumor has disappeared, and then reappeared makes the diagnosis probable. Puncture with needle and hypodermic syringe is the final diagnostic test and this should never be neglected." A number of cases is cited in which the cyst disappeared spontaneously.

In the light of his experience Dr. Bull is now less disposed to advise operation. He further says:

"These experiences lead me nowadays, after making the diagnosis sure by puncture, to begin the treatment in an average-sized cyst of one or both breasts with aspiration; and to recommend excision only—(1) in case the cysts refill; (2) in case of unusually large single or multiple cysts; (3) in case the patient is of the exceptionally nervous type ("cancerophobics"), who cannot put up with the presence of the growth and is tormented by the idea of the development of cancer. I should discourage all injections into these cysts, and justify external applications only as placebos."

He believes that we have little evidence that cystic disease degenerates into cancer, another reason why indiscriminate removal of all new growths is not imperative in all cases.

K.

EDITORIAL NOTES.

DEFECTIVE COPIES OF THE MARCH JOURNAL.

In binding the March Journal a number of pages were misplaced and the error escaped notice until after the issue was mailed. Any one who may have received such a copy can obtain a perfect one by addressing the publisher. K.

BASIS FOR ASSESSMENT FOR THE YEAR 1899-1900.

On the 27th of this month the secretary of the State Society will forward to the treasurer of the State Society the number of members of the several county societies as shown by the lists published in the March Journal corrected to May 27. This report will be the basis of the assessments on the county societies for the coming year. See Article X of the By-laws (page 89, Journal for July, 1897) section five of which reads:—"In case of failure on the part of any county society to report its membership at the annual meeting of this Society, its representation and the assessment provided for in Article VI, shall be based upon the last published report of said county society."

C. L. Stevens, Sec.

RECENTLY ELECTED OFFICERS OF COUNTY SOCIETIES.

ARMSTRONG COUNTY.

President..... James T. McCulloch, Freeport.
V. President.. Sam. A. S. Jessop, Kittanning.
Secretary..... Fred. C. Monks, Kittanning.
Treasurer..... Thos. M. Allison, Kittanning.
Censors..... Alvin A. Moore, Parker.
Alonzo P. N. Painter, Kittanning.
William H. McCafferty, Freeport.
John C. McKee, Slatelick.
James M. Patton, Kelley Station.

CARBON COUNTY.

President..... Edgar A. Riley, Mauch Chunk.
V. President.. J. C. Kramer, Aquashicola.
Sec. & Treas.. James B. Tweedle, Weatherly.
Censors..... W. H. Clewell, Summit Hill.
W. Worrall Reber, Lehighton.
C. I. Hoffman, Morea.

NORTHAMPTON COUNTY.

President..... Charles McIntire, Easton.
V. Presidents.. James O. Berlin, Bath.
David H. Keller, Bangor.
Rec. Secretary. Francis H. Erwin, South Bethlehem.

Reviews.

A COMPEND OF OBSTETRICS. Especially Adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A. M., M. D., Late Professor of Obstetrics and Diseases of Women in Starling Medical College. Revised and Edited by William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. Sixth Edition. Illustrated. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

Quiz compends have their place in medical education, and especially just previous to examinations, when a review of the subject that has been studied is to be undertaken. For such a purpose, this compend of obstetrics will be found useful.

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. Volume XVII. Containing the Report of the Proceedings of the Society from October, 1895, to June, 1897. Edited by William S. Carter, M. D.

This volume contains a list of the former presidents, present officers and members of the Society. The sections of the book are arranged with reference to the pathology of the various general systems of the body. Typography is well executed, but most of the plates are only fair, while some are poor.

The members of the Society are to be congratulated on the amount and character of the work performed, but one might perhaps expect more original research than is exhibited.

Wm. B. E.

SURGICAL NURSING. By Bertha M. Voswinkel, Graduate of Episcopal Hospital, Philadelphia, Etc. Second Edition, Revised and Enlarged. With 112 Illustrations. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

In the language of the author, this work is to give a concise outline of surgical nursing in general, together with a list of antiseptic agents, the mode of preparation of the various materials used in antiseptic and aseptic surgery, and the application of splints and fixed dressings. It is intended for nurses whose experience has been more or less limited. Numerous cuts of instruments are scattered throughout the book, for which there does not seem to be much demand, unless it be to advertise the manufacturer, whose name is a conspicuous feature.

MANUAL OF ORTHOPEDIC SURGERY. A Treatise on Deformities and Diseases of Joints and Bones. By Stewart L. McCurdy, M. D., Professor of Anatomy and Oral Surgery, Pittsburgh Dental College, etc. Price, \$1.25 net. Published by the Author. Pittsburgh: Nicholson Press. 1898.

Dr. McCurdy has succeeded well in presenting

the main facts of the subject under consideration. The work is necessarily not exhaustive, that not being the author's object. While pathology is not omitted, most attention is given to diagnosis and treatment, thus adapting the book specially to the needs of the practitioner. It is very profusely illustrated, both as to anatomical appearances and instruments and apparatus for the correction of deformities. For the purpose above indicated, it will be found an excellent guide.

AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania, etc. Containing the pronunciation and Definition of over 26,000 of the terms used in Medicine and the Kindred Sciences, Along with over 60 Extensive tables. Price, \$1.25, net. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

A pocket medical dictionary will often be brought into requisition when a large volume would be thought too troublesome to consult. This is specially true in the case of students, to whom a dictionary is indispensable as an aid in the acquisition of knowledge and the retention in the memory of the acquired facts. For a pocket edition this dictionary contains an unusually large number of words, and in many respects bears the imprint of careful preparation.

FEVER-NURSING. Designed for the Use of Professional and Other Nurses, and Especially as a Text-book for Nurses in Training. By J. C. Wilson, M. D., Visiting Physician to the Hospital of the Jefferson College and the Pennsylvania Hospital; etc. Third Edition, Revised and Enlarged. Price, \$1.00. Philadelphia: J. B. Lippincott Company. London: 35 Southampton Street, Strand.

Much needed information on the care of fever patients is found in this little work. It is intended for professional nurses, and others into whose care the welfare of fever patients may be placed. Inasmuch as proper nursing is often of as great, if not greater importance than medication in the treatment of the class of diseases under consideration, its proper performance is most essential. It is the author's aim to so present the subject that the nurse will recognize the rationale of the means she is asked to use, and the duties to perform, without a knowledge of which no one should be considered competent to assume the responsibilities of nurse.

RETINOSCOPY (OR SHADOW TEST) IN THE DETERMINATION OF REFRACTION AT ONE METRE DISTANCE, WITH THE PLANE MIRROR. By James Thorington, M. D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, Etc. Third Edition. Revised and Enlarged. Forty-three Illustrations. Twelve of Which are Colored. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1899.

This little manual is intended for college students and post-graduates, and represents the author's lectures on the subject delivered at the Philadelphia Polyclinic. The author defines retinoscopy as "the method of estimating the refraction of an eye, by reflecting into it rays of light from a plane or concave mirror, and observing the movement which the retinal illumination makes by rotating the mirror." It represents a method of detecting errors of refraction with which all ophthalmologists should be familiar, for he who is most resourceful will have least difficulty in arriving at the truth.

THE PRINCIPLES OF BACTERIOLOGY: A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene, and Director of the Laboratory of Hygiene, University of Pennsylvania. Fifth Edition. Enlarged and Thoroughly Revised. With 109 Illustrations, of which 26 are Colored. Lea Brothers & Co., Philadelphia and New York. 1899.

No medical education is complete without a thorough grounding in bacteriology, and no graduate of twenty years' standing is abreast of the times, who does not keep himself acquainted with the progress in this department of medicine. For both of these purposes Dr. Abbott's book is well adapted. The fifth edition is on the same general plan as the former ones, but much new matter has been added, especially on disinfection, specific infections, and immunity. New illustrations have also been inserted. It is a work on a subject that is not only necessary for proper recognition of the causes of disease, but is so enticing that one is tempted to read it as a diversion, because of its extreme interest.

THE PRACTICE OF OBSTETRICS. By American Authors. Edited by Charles Jewett, M. D., Professor of Obstetrics and Diseases of Children in the Long Island College Hospital, New York. Illustrated with 441 Engravings, 34 of which are in Colors, and 22 Colored Plates. Lea Brothers & Co., New York and Philadelphia. 1899.

There are nineteen contributors to this volume, comprising the names of men noted as obstetric teachers, and others equally well known in the lines upon which they write.

The aim of the book is accomplished, viz., that of being a clear and practical treatise suited to the needs of medical classes, and to furnish in moderate compass a concise and comprehensive guide for the practitioner. A very profuse bibliographical reference list, especially in regard to the pathology of pregnancy, labor and the puerperium, is not one of the least commendable features.

The book is arranged in eight parts, to wit, anatomy, physiology of pregnancy, labor, puerperium, pathology of pregnancy, labor of the puerperium

and obstetric surgery. Throughout, the book shows careful work on the part of the editor:

O. C. G.

ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Volume III. Philadelphia, New York, Chicago: The F. A. Davis Co., Publishers. 1898.

The same geneneral plan is followed in this as in the two preceding volumes. The articles on cretinism, exophthalmic goiter and goiter, contain some new factors bearing on the obscure pathology of these rare and troublesome disorders. That some advances have been made recently on etiology and treatment is evident from a perusal of these articles. Dysentery, dislocations, fractures, gout, hip-joint disease and eczema are practical subjects which receive due consideration. Hypnotism and hysteria are given careful analytical study, which cannot fail to interest any student of these subjects. This volume contains more complete reviews of the literature of 1898, and on the whole fully sustains the reputation of its predecessors.

E. B. B.

A MANUAL OF PHYSIOLOGY. With Practical Exercises. By G. N. Stewart, M. A., M. D., Edinburgh; Professor of Physiology in the Western Reserve University, Cleveland, Etc. With Numerous Illustrations, Including Five Colored Plates. Third Edition. Price, \$3.75 net. Philadelphia: W. B. Saunders, 925 Walnut street. London: Bailliere, Tindall & Cox.

Material for a systematic course of lectures or reading is interwoven with a complete arrangement of practical exercises. The former in larger type than the latter, and can be read separately. The aim of the author is to follow the exposition of each subject with sufficient laboratory experiments to fix the essentials in the mind of the student. In this he succeeds fairly well. The work does not pretend to be original, but it does aim to be a brief but complete treatise on this somewhat neglected subject. The present edition has been largely revised, more matter being added to the Practical Exercises, and some omitted from the regular text. The work is not as well outlined as it should be for students' use, and to make it a ready reference for the student-practitioner, but the novel arrangement will be appreciated by teachers and students of modern practical physiology.

E. B. B.

CHEMISTRY: General, Medical and Pharmaceutical, Including the Chemistry of the U. S. Pharmacopœia. By John Attfield, F. R. S. New (16th) Edition. In one Royal 12mo. vol-

ume of 784 pages, with 88 Illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Philadelphia and New York.

Attfield's Chemistry has long ranked as a standard text-book, and is generally recognized as being as complete as it is possible to present as abstruse a science as chemistry in the form of a manual. Nothing that is of value to a medical student, or later a practitioner, in this science is omitted. Indeed, there is much more than most students can assimilate during the time that may ordinarily be devoted to this study in the medical curriculum. This, the last edition, presents such changes, alterations and additions, as the latest developments in chemistry have made necessary. The most recent synthetic and analytical processes have taken the place in many instances, of older ones. It is thus in all respects in keeping with the rapid growth of chemistry, and cannot fail to supply all the needs of a medical student or a post-graduate.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Etc. Volume I. March, 1899. Surgery of the Head, Neck and Chest—Diseases of Children—Pathology, Infectious Diseases, Including Croupous Pneumonia—Laryngology and Rhinology—Otology. Lea Brothers & Co., Philadelphia and New York. 1899.

This is a work by means of which it is intended to bring to the attention of the progressive medical man, the main facts and results brought to light by original researches, disputations or otherwise, as knowledge progresses, in such a "way that they can be applied at the bedside." Special care is exercised in excluding useless discussion or other matter not of practical utility. The contributors have been selected with care. Under the influence of the wide knowledge and long experience of the editor in medical literature, this series cannot but prove successful. It is specially adapted for readers who desire to keep in touch with the new developments in all branches of medicine.

MATERIA MEDICA, PHARMACY, PHARMACOLOGY AND THERAPEUTICS. By W. Hale White, M. D., F. R. C. P., Physician to and Lecturer on Pharmacology and Therapeutics at Guy's Hospital, London. Edited by Reynold W. Wilcox, M. A., M. D., LL. D., Professor of Medicine and Therapeutics at the New York Post-Graduate Medical School, and Attending Physician to the Post-Graduate Hospital. Fourth American Edition. Thoroughly Revised. P. Blakiston's Son & Co., Philadelphia. 1898.

Owing to the labor and practical experience in this department of medicine by the editor, brought

to bear upon the fourth American edition of this work, the writings of the author need no introduction to the American profession. Throughout the book, enclosed in brackets, are additions of great practical value, by the editor. The arrangement is scientific, modern in the highest degree. In this day of nostrum advertising, a book of this character is a luxury. To the reviewer's mind, no subject is so little understood by the profession in general as that of materia medica and therapeutics.

Though of comparative small size, this work serves its purpose admirably, and will be appreciated by students as well as the experienced physician. O. C. G.

A PRACTICAL HANDBOOK ON THE MUSCULAR ANOMALIES OF THE EYE. By Howard F. Hansell, A. M., M. D., Clinical Prof. of Ophthalmology, Jefferson Medical College, Etc., and Wendell Reber, M. D. With 28 Illustrations and 1 Plate. 182 pages. Price, \$1.50. P. Blakiston's Son & Co. Philadelphia.

The authors of this valuable little book are to be congratulated on the comprehensive, simple and concise epitome they have given beginners in ophthalmic work. The aim is to give the principal facts in the diagnosis and treatment of abnormal states of the eye muscles, and else than this the reviewer knows of no other book in the English language which compares with it. Although it is not intended as a book of reference, when occasion demands, references are given in neat foot-notes.

The book is divided into four parts. Part I., Introductory, treats of the anatomy and physiology of the extrinsic ocular muscles.

Part II. is devoted to a consideration of ocular palsies.

Part III. gives a complete description of the functional anomalies, the chapter on general diagnosis being especially valuable to the beginner.

Part IV. describes briefly and concisely the operations on the eye muscles. E. S.

A MANUAL OF ORGANIC MATERIA MEDICA. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Ph. M., Late Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Seventh Edition. Revised by Henry C. C. Maisch, Ph. D., Professor of Materia Medica and Botany in the Medico-Chirurgical College of Philadelphia. With 285 Illustrations. Lea Bros. & Co., Philadelphia and New York. 1899.

For the acquisition of the structural and chemical characteristics of crude animal and vegetable drugs, this book offers most excellent facilities. The chemistry of drugs is unfortunately too much neglected in the ordinary curriculum of medical

colleges, and as a result, many physicians fall into the reprehensible habit of prescribing "elegant preparations," of whose ingredients they are ignorant. With accurate knowledge of constituents, such as is furnished in this work, more intelligent medication becomes possible.

The drugs are considered in groups, according to their structural nature, as, for example, roots, rhizomes, wood, barks, leaves, flowers, etc. In addition to the official animal and vegetable drugs, numerous others, of more or less medicinal value, are also included.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, B. A., M. D., Professor of Surgery in Cornell University Medical College, New York, Etc., Etc. With 326 Illustrations and 20 Plates in Monotint. Lea Brothers & Co., New York and Philadelphia. 1899.

In one sense, this book is a second edition of the volumes published in 1883 and 1888, but it has been so largely rewritten that it is practically new.

Eleven years' experience since the publication of the last volumes, gives weight to the views enunciated by the author. During this time the rarer forms of fractures and dislocations have been, comparatively speaking, frequently seen, so that the book is written in a more personal form. The liberal bibliographical references will appeal to the student of special subjects.

The portion treating of fracture has been almost wholly rewritten, the most marked change in classification being that made in the chapter on fractures of the skull, in which for the former classification—as fractures of the base and vault—that of circumscribed fractures of the vault and fissured fractures with injury of the brain, has been substituted.

In the part treating of dislocations, the most notable changes are those dealing with operative reduction of both old and recent injuries.

The skiagrams throughout the book are beautiful, but, as justly remarked by the author, "The x-rays are of value in showing details of certain fractures, especially at the wrist, elbow and ankle, yet it cannot be said that they have yielded much information of practical value which could not have been obtained by palpation." The work is to be commended, the personal element giving it a special charm.

O. C. G.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By Egbert H. Grandin, M. D., Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital, etc. With the Collaboration of George W. Jarman, M. D., Gynecologist to the Cancer Hospital; Instructor in Gynecology in the Medical Department of the Columbia University, etc. Second Edition. Revised and Enlarged. Illustrated with Sixty-

four Full-page Photographic Plates and Eighty-six Illustrations in the Text. Pages xiv-461. Extra Cloth, \$4.00 net; Sheep, \$4.75 net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia. 1898.

This is pre-eminently a practical work, dealing with the subject of obstetrics and obstetrical surgery in its clinical aspect, and as such is adapted especially to the use of the student and busy practitioner of medicine. The volume is largely illustrated with photographic plates taken from life, thus making many points clear which could be with difficulty done by the text.

Part I. deals with pregnancy, its diagnosis, differential diagnosis, duration, hygiene, pathology and the diagnosis of the presentation and of the position of the fœtus, the latter being treated in an unusually clear and able manner.

Part II. In this part is described the mechanism, clinical course and the management of normal and abnormal labor, the points usually difficult to understand being made plain by the photographic plates of the manikin and others taken from life.

Plate xxi shows the plane and axis of the superior and inferior straits in such a way as to make an indelible impression on the mind.

Part II. also contains a valuable chapter on the care of the new-born infant, laying especial stress on the treatment of the eye in cases of suspected infection.

Part III. treats of the puerperal state, the normal and the pathological puerperium. Part IV. Obstetric surgery. The revision of this, the second edition of this work, pertains especially to obstetric surgery and the puerperal state since it is in these departments that progress has been made, and this part of the volume is of particular value since it adapts to practical obstetrics the advantages gained by modern aseptic surgery.

Taken as a whole, the work is a valuable one, well written, beautifully illustrated and of practical use to every one interested in the subject.

P. M.

MANUAL OF CHEMISTRY. A Guide to Lectures and Laboratory work for Beginners in Chemistry. A Text-book specially adapted for Students of Pharmacy and Medicine. By W. Simon, Ph. D., M. D., Professor of Chemistry and Toxicology, College of Physicians and Surgeons, Baltimore; Professor of Chemistry in the Maryland College of Pharmacy. New (Sixth) edition. In one 8vo. volume of 532 pages, with 46 engravings and 8 colored plates illustrating 64 of the most important chemical tests. Price, Cloth, \$3.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

To present the abstruse and intricate science of chemistry in its medical aspects is a task of no slight dimensions, indeed many authors fail in presenting the chemical principles in a manner assimilable for one who does not make a specialty

of it, as is the case with students of medicine, pharmacy, etc. The author of this manual, however, possesses the faculty of acquainting the reader with the fundamental facts of the science in not only a plain but extraordinarily entertaining manner. Special stress is laid on what the needs of the medical student, or those of the allied sciences, demand.

The author is to be commended in the stand taken on the subject of the spelling of the names of chemicals. On this subject he states in the preface that "the orthography recommended by the chemical section of the American Association for the Advancement of Science, has not been fully adopted for the reasons that neither the leading chemical journals, nor the United States Pharmacopœia use this spelling, and that it would be unwise to have the student confronted with two different systems of orthography." The work is divided into seven sections, with an appendix. I. Fundamental Properties of Matter; II. Principles of Chemistry; III. Non-Metals and Their Combinations; IV. Metals and Their Combinations; V. Analytical Chemistry; VI. Consideration of Carbon Compounds, or Organic Chemistry; and VII. Physiological Chemistry. The last of these considers the subjects of chemical changes in plants and animals, animal fluids and tissues, milk, urine and its normal constituents, and examination of normal and abnormal urine. This it will be readily recognized is information of great importance to medical students, and the knowledge gained in this line, will make of them more scientific and better physicians. Nor should its use be limited to undergraduates, for every practicing physician will find in it statements of facts that will render him more resourceful and competent in the treatment of disease.

AN AMERICAN TEXT-BOOK OF DISEASES OF THE EYE, EAR, NOSE AND THROAT. Edited by G. E. de Schweinitz, M. D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia, etc., and B. Alex. Randall, M. D., Clinical Professor of Diseases of the Ear in the University of Pennsylvania, etc. Illustrated with 766 Engravings, 59 of them in Colors. Price, Cloth, \$7.00 net; Sheep or Half Morocco, \$8.00 net. Philadelphia W. B. Saunders, 925 Walnut street. 1899.

Sixty writers have contributed to the volume under review. Such works have a value in the busy days in which we live. By the method of individual contribution a large book can be made in a few weeks looking fresh and new and probably containing the latest discoveries and methods. As such, the volume before us has value; but from the way the parts have been produced and brought together we must not look for unity, harmony nor completeness. A "system" in medicine implies all these:—unity of plan, harmony between the chap-

ters and completeness in the treatment of the subjects. A "system" must be the work of one writer, or a joint authorship of not more than two. No editor can make an harmonious whole from the work of sixty contributors without rewriting it. This fact will explain the many repetitions in the different parts of the work. Some chapters are mere synopses of the subject treated, useful to no one not quite familiar with them. Probably not five men in our country will undertake to verify the mathematical formulæ in the chapter on "General Optics." Some of the chapters have the easy swing of a writer accustomed to such work, while others have neither method nor material. A few authors have written chapters suitable for a text-book—the intent of the volume. Such have carefully, systematically and clearly unfolded the subject in all its parts. The difficulties of the student have been understood in advance. Operations have been so carefully described and other descriptive matter made so clear that we intuitively wish such an author had written the whole volume.

Little fault can be found with the production of the plates used in illustration and the colored schemes and plates are very fine and useful; but there are many illustrations which should not have been retained—they are not worth the half or the quarter pages they occupy. Several simply exploit very common-place work of the writer.

The editors are to be congratulated for general make up of the work as well as for its general accuracy. The publishers have produced a very attractive volume. The type used both in the body of the book and for headings is clear and effective. The book as a whole is a creditable production.

G. W. A.

ON THE ORIGIN AND PROGRESS OF RENAL SURGERY. With Special Reference to Stone in the Kidney and Ureter; and to the Surgical Treatment of Calculus Anuria. Being the Hunterian Lectures for 1898, Together With A Critical Examination of Subparietal Injuries of The Ureter. By Henry Morris, M. A., Lond. F. R. S., Senior Surgeon to the Middlesex Hospital; Examiner In Surgery In the The University of London, Etc. 288 pp. Price, \$2.00 Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1898.

This little volume contains the Hunterian Lectures for the year 1898, and a fourth lecture published in the *Edinburgh Medical Journal*, in January, 1898.

The first lecture is devoted to the history of renal surgery and its development, from August, 1869, when Gustav Simon, of Heidelberg, removed by the lumbar method, the kidney of a woman who had a ureteral fistula opening on the abdomen, to the present date (1898).

It is interesting to note that the next case re-

corded is a successful nephrectomy by Dr. Gilmore, of America, done on a woman five months pregnant, who recovered without a miscarriage.

Then follow detailed accounts of various operations, of nephrotomy, nephroplexy, ureterotomy, ureterectomy, and nephrolithotomy.

The second lecture treats of renal calculus; the difficulties and errors in diagnosis in their relation to exploration of the kidney.

The author advocates prompt operation in every case of suspected renal calculus, and justifies his methods by showing the small percentage of deaths following the operation in his cases, 2.9 per cent. in nephrolithotomy.

In his third lecture Mr. Morris treats of fistula caused by renal calculus; obstructive anuria due to renal calculus; the technique of the exploration of the kidney and ureter for calculus.

In lecture IV. injuries of the ureters is exhaustively discussed.

It is surprising to note that not one case of penetrating wound of the ureter is reported to have occurred in our late Civil War, and although reports of renal cases of a surgical nature have during the last ten years multiplied a thousand fold, since 1885 only seven cases have been published purporting to be subcutaneous injuries to the ureter. This, of course, does not include cases of injury to the ureter during operations on other organs, which are of quite sufficient occurrence.

This book is worthy of a close and attentive study, showing, as it does, the great advance made in renal surgery since 1869, the date of the first nephrectomy, at which period the removal of a kidney was believed to be a necessarily fatal operation, while at the present time exploratory incisions into the kidney and its removal are made with comparatively small danger to the patient.

P. M.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Clinical Neurology and Medical Jurisprudence in the Northwestern University Medical School. (The Chicago Medical College), Chicago; Professor of Neurology in the Chicago Polyclinic; etc., and Frederick Peterson, M.D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York. With 302 Illustrations. Philadelphia: W. B. Saunders, 925 Walnut St. 1899.

This book is nothing more nor less than what its authors claim for it, viz., a carefully prepared text-book for students and general practitioners. The section on nervous diseases was written by Dr. Church while that on mental diseases (comprising about one-fourth of the volume) has been written by Dr. Peterson. The work is not a joint

one, each author being responsible only for the subject upon which he has written.

The work has a distinctly original flavor, and generally speaking the treatment of the various subjects included in it is decidedly modern. A large number of the illustrations are original, and those which have been borrowed are usually well chosen. There are very few useless or superfluous illustrations, and all, with few exceptions, are well executed.

As an introduction to the study of nervous diseases, Dr. Church writes a very useful section on the methods of examinations and general symptomatology of nervous diseases with suggestions for recording histories. His description of the various nervous diseases is, for the most part, adequate for a text-book for students. But certain exceptions to this general statement could be made, as, for example, in the case of the traumatic nervous affections which, in view of their immense practical importance and the hazy ideas which so often obtain regarding them, might have been with profit treated in greater detail. Several diseases, Dubini's disease, Huntingdon's chorea, Parkinson's disease, and Thompson's disease would seem simpler if called by other names by which they are known, rather than by the names of men with which they are identified. As a rule there is due proportion preserved in the treatment of the various diseases, the rarer ones, receiving, as seems proper, only brief mention. Dr. Church's presentation of the various diseases is, for the most part, clear, lucid, concise, and his style is quite pleasing. The treatment laid down by him is sensible and conservative, drugs being given, for the most part, a secondary place. Details as to the methods in hydrotherapy and electricity might, with profit, have been given in more detail in a work of this kind.

Dr. Peterson adopts a very simple (probably too simple) classification of insanity, dividing it into the following forms: mania, melancholia, circular insanity, epileptic insanity, dementia, general paresis, paranoia, idiocy, imbecility, and feeble-mindedness. Before going into these various varieties of insanity he discusses the general etiology, symptomatology and treatment of insanity at some length, introducing much of his own work concerning cranial measurements and the stigmata of degeneracy. Indeed, in the treatment of these subjects, Dr. Peterson is at his best. The descriptions of the particular forms of insanity is scarcely satisfying, but they will at least serve to give a useful outline and suggest references to larger works on mental diseases. In dealing with paranoia the author introduces a great deal from the autobiography of a paranoic which is very readable and instructive but scarcely in place in a work of this size. One variety—only the most highly typical

one, it is true—of paranoia is portrayed, and so the complete picture of this many-sided psychosis is not found.

Taken all-in-all, the book is one which reflects credit upon its authors and one which can be highly commended to those for whom it was written. T. D.

NEW BOOKS.

Annual and Analytical Cyclopædia of Practical Medicine. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors; assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with chromo-lithographs, engravings and maps. Volume III. Philadelphia, New York and Chicago, The F. A. Davis Co., Publishers. 1899.

Practical Materia Medica for Nurses. With an Appendix Containing Poisons and their Antidotes, with Poison - Emergencies; Mineral Waters; Weights and Measures; Dose-List; and a Glossary of the terms used in Materia Medica and Therapeutics. By Emily A. M. Stoney, Graduate of the Training School for Nurses, Lawrence, Mass., Etc. Price, \$1.50 net. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. New (5th) edition, enlarged and thoroughly revised. 585 pages, 109 illustrations, of which 26 are colored. Cloth, \$2.75 net. Philadelphia and New York, Lea Brothers & Co.

An Essay on the Nature and the Consequences of Anomalies of Refraction. By F. C. Donders, M. D., Late Professor of Physiology in the University of Utrecht. (Translated under the Supervision of the Kirschbaum School of Languages and Bureau of Translation, of Philadelphia.) Revised and Edited by Charles A. O. Oliver, M. D., One of the Attending Surgeons to the Wills' Eye Hospital, Etc. With Portrait and other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1899. Price, \$1.25.

Saunders' Series of Hand Atlases. Atlas of the External Diseases of the Eye, Including a Brief Treatise on the Pathology and Treatment. By Prof. Dr. O. Haab, of Zurich. Authorized Translation from the German. Edited by G. E. de Schweinitz, M. D., Professor of Ophthalmology in Jefferson Medical College, Philadelphia, Etc. With 76 Colored Plates and 6 Engravings. Price, \$3.00 net. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

A Manual of Organic Materia Medica; Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms. For the use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. New (7th) edition, thoroughly revised by H. C. C. Maisch.

Ph. G., Ph. D., Professor of Materia Medica and Botany in the Medico-Chirurgical College of Philadelphia, Department of Pharmacy. In one 12mo. volume of 512 pages, with 285 engravings. Cloth, \$2.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

REPRINTS AND PAMPHLETS.

A Plea for the Best Care of the Insane. By John Curwen, M. D., Warren.

A Winter Visit to the Wisconsin County Asylums. By C. B. Burr, M. D., Flint, Michigan.

Prostatectomy. By Parker Syme, M. D., New York. Reprinted from Annals of Surgery, March, 1899.

First Annual Meeting of the Medical Society of the State of Wyoming. Held at Rawlins, Wyoming, May 13, 1898.

Prostatic Retention. By Dr. Maris Gibson, Wilkesbarre. Reprinted from the Transactions of the Luzerne County Medical Society.

The Progress of Rhino-Laryngology. By W. Scheppegrell, M. D., New Orleans. Reprinted from the Laryngoscope, January, 1899.

Three Cases of Obstruction of the Bowels by Omental Cords. By G. G. Eitel, M. D., Minneapolis. Reprinted from the Northwestern Lancet.

Reports of Cases. Read before the Luzerne County Medical Society, at Wilkesbarre, December 21, 1898. By G. W. Guthrie, M. D., Wilkesbarre.

Notes on the Absorption Versus the Digestion of Milk. By L. D. Bulkley, M. D., New York. Reprinted from the Journal of the American Medical Association, December 17, 1898.

The Use of Gloves in Surgery, With a Report of the Investigation as to the Efficacy of Cotton Gloves. By W. R. Lockett. Reprinted from the Philadelphia Medical Journal, February 11, 1899.

Agina Ludovici Complicating an Acute Suppurative Otitis; Recovery. By M. D. Lederman, M. D., New York. Reprinted from the Medical Record, October 8, 1898.

Some Points of Special Interest in the Study of the Deep Reflexes of the Lower Extremities. By C. K. Mills, M. D., Philadelphia. Reprinted from the Journal of Nervous and Mental Diseases, March, 1899.

Shall Absorbable or Non-Absorbable Ligatures and Sutures be Employed in Hysterectomy and Salpingo-Oophorectomy? By C. P. Noble, M. D., Philadelphia. Reprinted from the Medical News, October 15, 1898.

A Case of Acute Mastoiditis; Perforation of the Medial Plate of the Process and Consecutive Abscess in the Neck. By C. H. Burnett, M. D., Philadelphia. Reprinted from the University Medical Magazine, February, 1899.

Closure of Vesico-Vaginal Fistulæ Following Vaginal Hysterectomy and Other Operative Procedures by the Vaginal Route. By Charles P. Noble, M. D., Philadelphia. Reprinted from the American Gynecological and Obstetrical Journal for November, 1899.

MEDICAL EXAMINING BOARDS OF PENNSYLVANIA.

Places of Meeting of the MEDICAL EXAMINING BOARDS
OF PENNSYLVANIA, June 20, 21, 22, and 23, 1899.

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DR. L. P. O'NEAL, Mechanicsburg.

First meeting Tuesday, June 20, at 2 o'clock. Daily there-
after for three days at 9 a. m. and 2 p. m.

ORDER OF EXAMINATIONS.

Anatomy, Tuesday June 20, at 2 p. m.
Physiology and Pathology, Wednesday, June 21, at 9 a. m.
Therapeutics and Practice, Wednesday, June 21, at 2 p. m.
Surgery, Thursday, June 22, at 9 a. m.
Obstetrics, Thursday, June 22, at 2 p. m.
Chemistry and Materia Medica, Friday, June 23, at 9 a. m.
Diagnosis and Hygiene, Friday, June 23, at 2 p. m.

Communications.

PROGRAMME OF THE FIRST MEETING OF RECTAL SPECIALISTS, AT COLUMBUS OHIO, JUNE 6TH-9TH, 1899.

The Importance of Giving Rectal Diseases Spe-
cial Study, Jos M. Mathews, Louisville.

Pruritus Ani, Jas. P. Tuttle, New York City.

Surgical Treatment of Non-Malignant Stricture
of the Rectum, Joseph B. Bacon, Chicago.

A Modification of Whitehead's Operation for
Hemorrhoids, Samuel T. Earle, Jr., Baltimore.

The Proctoscope as a Factor in the Diagnosis
and Treatment of Simple Ulceration of the Rec-
tum, Leon Straus, St. Louis.

A Consideration of the Various Forms of Ulcer-
ation of the Rectum, Lewis H. Adler, Jr., Phila-
delphia.

Rectal Carcinoma—Excision and Subsequent
Colotomy, B. Merrill Ricketts, Cincinnati.

The Limitations of the Kraske Operation,
Charles C. Allison, Omaha.

The Act of Defecation, Thomas Charles Martin,
Cleveland.

Constipation Considered from the Standpoint of
the Proctologist, A. Bennett Cooke, Nashville.

Paper and Exhibition of New Instruments, S.
G. Gant, Kansas City.

Rectal Adenomata, William M. Beach, Pitts-
burg.

Official Transactions.

REPORT OF THE DELEGATION TO THE FLORIDA MEDICAL ASSOCIATION.

The Twenty-sixth annual session of the
Florida Medical Association was held in
Jacksonville, on April 19th and 20th. The
Association has a membership of about
130, and over one-third of that number
seemed to be at the meeting. This showed
the interest of the Florida profession in its
representative organization.

Dr. R. P. Daniel of Jacksonville, chair-
man of the Committee of Arrangements,
and Dr. R. P. Izlar, president of the As-
sociation, made success assured by their
businesslike and energetic management of
the details. After the usual addresses of
welcome, the President read a very in-
structive address, which dealt chiefly with
typhoid fever in the army during the Span-
ish war. His experience and results in the
hundreds of cases seen in the service were
certainly worthy of record.

The oration was delivered in the even-
ing to an attentive audience by Dr. J. H.
Hodges of Gainesville, on "Medicine, a
Progressive and Courageous Profession."
The afternoon of the first day and the morn-
ing of the second day were devoted to
scientific papers and discussions, and the
meeting concluded with a river excursion,
given by the Jacksonville medical men, to
the members and their families.

Interesting papers were that of Dr. L. de M. Blocker, on embolism gangrene in typhoid fever, that of Dr. C. S. Brown on arterial hematoma, that of Dr. C. Drew on monocular blindness and insufficiency of the ocular muscles, that of Dr. S. P. Eagleton of Ocala, formerly of Philadelphia, on accidental inoculation of the eyeball with vaccine virus, and that of Dr. J. R. Porter of Key West, on sensational sanitation. Numerous other papers were read, including one by Dr. J. B. Deaver of Philadelphia, who had sent his manuscript but was not present. Dr. John B. Roberts of the Medical Society of the State of Pennsylvania read by invitation a paper on "Disfigurements of the Nose and Mouth and their Surgical Treatment."

The large proportion of the Association present at the meeting and the high character of the papers and discussions impressed the writer, who could not but wish that one-third of the members of the Medical Society of the State of Pennsylvania attended its meetings.

All of which is respectfully submitted,

John B. Roberts,

Delegate to Florida Medical Association.

PROGRAM OF THE JOHNSTOWN MEETING ARRANGED IN THE ORDER OF PROCEDURE.

Tuesday, May 16, 1899, 2 p. m.

Calling the Society to order.

Reading of the minutes.

The Address in Surgery, George W. Guthrie, Wilkesbarre.

Potts Disease, S. L. McCurdy, Pittsburg. Deformities in Children from the Standpoint of the General Practitioner, J. M. Taylor, Philadelphia.

Clinical Experiences with Head Injuries, J. H. Anderson, Pittsburg.

Report of a Case of Cerebellar Abscess, J. B. Crombie, Pittsburg.

Remarks on Nephrectomy, with a Plea for the More Certain and Earlier Diagnosis

of Conditions Requiring It, Charles P. Noble, Philadelphia.

The Treatment of Appendicitis, R. H. Gibbons, Scranton.

Cholecystitis Simulating Appendicitis, Ernest Laplace, Philadelphia.

Stricture of the Rectum, William M. Beach, Pittsburg.

Prolapse of the Rectum, R. W. Stewart, Pittsburg.

The Scrubbing Brush, William S. Forbes, Philadelphia.

Enlargement of the Prostate Gland, T. C. Detwiler, Lancaster.

Unfinished Business.

New Business.

Intermission at 5:30 P. M.

JOHNSTOWN OPERA HOUSE.

Tuesday Evening.

Doors open at 7 P. M. Exercises begin promptly at 8 P. M.

Music.

Calling to order.

Welcome to Johnstown, Hon. L. D. Woodruff, Mayor City of Johnstown.

Address of Welcome, Hon. A. V. Barker, President Judge of Cambria County.

Annual Address, Dr. Webster B. Lowman, President Medical Society of the State of Pennsylvania.

Music.

Adjournment.

Reception given by Dr. and Mrs. Webster B. Lowman, to the Medical Society of Pennsylvania, visiting ladies, the Cambria County Medical Society, and guests, Amicus Club Rooms, Franklin street. Reception from 9:30 P. M. to 12 M.

Wednesday, May 17, 9 a. m.

Calling the Society to order.

Reading of the minutes.

Announcement of Committee on Nominations.

The Address in Laryngology, D. Braden Kyle, Philadelphia.

Treatment of Diseases of the Larynx by Electricity, J. M. Douthett, Pittsburg.

The Importance of Early and Proper Attention to Ailments of the Eye, G. W. Allyn, Pittsburg.

The Duty of the Physician to His Patients, in Respect to Opticians, L. J. Lautenbach, Philadelphia.

The Normal Movements of the Ocular Muscles, Joseph E. Willetts, Pittsburg.

Mechanical Treatment of Ptosis, E. B. Heckel, Pittsburg.

Melano-Sarcoma of the Conjunctiva; Report of a Case, G. E. Curry, Pittsburg.

A Note on the Employment of Solutions of Toluidin-blue in External Inflammatory Diseases of the Eye, C. A. Veasey, Philadelphia.

The Address in Hygiene, W. M. L. Coplin, Philadelphia.

Some of the Legal Results of Advanced Medical Legislation, W. S. Foster, Pittsburg.

The State Board of Health and Antitoxin, T. D. Davis, Pittsburg.

Observations on Nature and Her Methods, W. R. Hockenberry, Slippery Rock.

Unfinished Business.

New Business.

Intermission at 12 M.

Wednesday, May 17, 2 p. m.

Calling the Society to order.

Report of the Committee on Nominations.

The Address in Obstetrics, Francis P. Ball, Lock Haven.

What can We Promise from Operative Treatment of Cancer of the Uterus? E. E. Montgomery, Philadelphia.

Vaginal or Abdominal Section in Pelvic Surgery, B. F. Baer, Philadelphia.

Appendicitis in Relation to Pelvic Diseases, Wilmer Krusen, Philadelphia.

Some of the Dangers of the Uterine Curette, X. O. Werder, Pittsburg.

Hemorrhage During the Menopause, J. M. Duff, Pittsburg.

Post Partum Hemorrhage, J. C. Sheridan, Johnstown.

Puerperal Septicæmia, G. W. Wagoner, Johnstown.

The Address in Mental Diseases, H. L. Orth, Harrisburg.

A Plea for Posterity, A. L. Russell, Midway.

Sudden and Temporary Mental Aberration. Unconscious Automatism. Temporary Irresponsible States, Samuel Ayres, Pittsburg.

Some Clinical Observations Upon Diseases of the Skin, John V. Shoemaker, Philadelphia.

Acute Circumscribed Oedema with Report of Cases, William B. Ewing, Pittsburg.

The Treatment of Obstinate Cases of Stomach Trouble by Mechanical Means, (A Clinic), A. Enfield, Bedford.

Unfinished Business.

New Business.

Intermission at 5:30 P. M.

Wednesday Evening, May 17.

Reception and banquet given by the Cambria County Medical Society to the Medical Society of the State of Pennsylvania and visiting ladies in the Amicus Club Rooms, Franklin street. Reception and banquet from 9 P. M. to 12 M.

Thursday, May 18, 9 a. m.

Calling the Society to order.

Reading of the minutes.

The Address in Medicine, J. Chris Lange, Pittsburg.

The Relation of the General Practitioner to the Specialist, J. M. Baldy, Philadelphia.

Diphtheria in the Roselia Foundling Asylum of Pittsburg; Treatment with Antitoxin, Adolph Koenig, Pittsburg.

Intoxication from Toxalbumins and Other Toxins, Mary McD. Shick, Reading.

The Treatment of Tuberculosis, L. F. Flick, Philadelphia.

Pulmonary Tuberculosis, with Intercurrent Typhoid Fever, Complicated by Pneumonia, A. A. Eshner, Philadelphia.

Tuberculosis Following Typhoid Fever, F. U. Ferguson, Gallitzin.

Relapse in Typhoid Fever, L. H. Mayer, Johnstown.

Certain Drugs in Enteric Fever—A Study in Therapeutics, J. C. Wilson, Philadelphia.

Myxedema; Report of a Case, E. H. Small, Pittsburg.

Diagnosis in Mild Cases of Smallpox, W. D. Haight, Johnstown.

Some Atypical Features of Certain of the Commoner Nervous Diseases, Theo. Diller, Pittsburg.

On the Remote Results in Artisan's Palsy, F. S. Pearce, Philadelphia.

Unfinished Business.

New Business.

Intermission 12 M.

Thursday, May 18, 2 p. m.

Calling the Society to order.

Reading of the minutes.

Special Discussion on Chronic Renal Disease:

Etiology and Pathology, E. G. Matson, Pittsburg, Referee.

Prognosis and Treatment, H. A. Hare, Philadelphia, Referee.

General Discussion Opened by James I. Johnston, Pittsburg, and John H. Musser, Philadelphia.

Unfinished Business.

Reading of minutes.

Inauguration of President-elect.

Adjournment.

FOOD AND ALCOHOL AS CAUSES OF DISEASE RESPECTIVELY.

The Sanitary Home for April quotes Sir Henry Thompson as saying: "I have come to the conclusion that more than half of the disease which embitters the middle and latter part of life is due to avoidable errors of diet; and that more mischief, in the form of actual disease, of impaired vigor and of shortened life accrues to civilized man from erroneous habits of eating than from the habitual use of alcoholic drink, considerable as I know that evil to be."—(New York Med. Jour.)

Monthly Reports of County Societies.

REPORT OF FEBRUARY MEETING OF ALLEGHENY COUNTY MEDICAL SOCIETY.

The regular meeting of the Allegheny County Medical Society was held February 21, 1899.

Dr. Jos. E. Willetts presented a paper on "Ocular Muscles," in which he described the anatomy and physiology of these muscles and emphasized the necessity of correcting not only errors of refraction, but also all errors in muscle balance. He also spoke of recent classification of motor anomalies, and of the combined action of the muscles in the movements of the eye. The centers and nerves governing these muscles were also dwelt upon.

A case of "Epithelioma of the Lid" was reported by Dr. Willetts. A plastic operation after removing the growth in which the flap was taken from the forehead, gave an apparent successful and pleasing result. Four weeks later recurrence occurred in the flap and surrounding tissues, involving the entire lower lid, the outer canthus and one-eighth of the upper lid, together with the periosteum of the infra-orbital ridge. Extensive dissection and curettement, irrespective of the cosmetic effect, gave a fairly good result as regards appearance, and he thinks a permanent cure.

J. I. Johnston, Editorial Com.

REPORT OF THE APRIL MEETING OF THE YORK COUNTY MEDICAL SOCIETY.

The regular monthly meeting for April was well attended. There being no paper on hand for the day, a number of interesting cases were reported and discussed.

Dr. J. C. Murphy, of York Haven, reported an interesting case of intussusception in a patient four years old, which had continued over a period of five weeks, when

it terminated fatally. This case was seen by a number of able men, but the correct diagnosis was not made until at the operation, which was determined on, at last, and which disclosed an intussusception in which the ileum, cæcum and ascending colon had passed down as far as the sigmoid flexure.

Marked pain was the only prominent symptom. There was but slight tenderness on palpation. Distention and obstructive symptoms did not manifest themselves until shortly before death. This suggested the propriety of an operation, but the patient died soon afterward.

Dr. W. C. Stick reported the case of a boy who while leading a fractious horse, was jerked and apparently hurt in his right side near the costal margin. The boy complained of some pain, at intervals, for a few days, but continued up and about, till the pain suddenly became worse, and an opiate was required for the first time. On the night following he went into collapse and died. Post mortem examination revealed a gangrenous appendix, behind the ascending colon; the appendix extending to the seat of pain. There was also revealed a perforation, some pus and a beginning general peritonitis. It is interesting to note the location of the appendix, the slight degree of pain in contrast to the marked pathological change revealed post mortem. What relation had the jerking of the horse to the development of the appendicitis? There were no concretions found in the appendix, and only a little fecal matter.

Dr. I. C. Gable reported a few cases of placenta prævia. In a case of central placenta prævia, to which he was recently called in consultation, he reported that ergot and the usual remedies had been given; besides the patient was tamponed. After the os was sufficiently dilated, he carefully separated the placenta laterally from the uterine wall, ruptured the membranes and by the Braxton-Hicks method performed podalic version. The woman was delivered, and made a nice recovery, but the child was

dead. In such cases the doctor expressed himself as much preferring a lateral separation of the placenta to a central perforation in introducing the hand to perform podalic version, claiming that the former method results in less hemorrhage.

Dr. A. A. Long, of York, reported a case of placenta prævia in which the whole of the placenta became detached, and was delivered ahead of the child. He believes the cases of central placenta prævia to be less frequent than is generally supposed, and a condition met by but few.

Dr. G. E. Holtzapple, of York, reported a case of central placenta prævia. He questions the propriety of the use of ergot in such cases as a hæmostatic, or for any other effect prior to the delivery of the child, and to arrest hemorrhage and at the same time stimulate dilatation of the os, he believes our best means to be direct pressure, which may be obtained by a tampon properly introduced. This ought to be done through a speculum. He prefers the perineum well retracted, with a Sim's speculum and in Sim's position. If cotton is used, he prefers flattened, compressed disks, having been saturated with a disinfectant solution and the disks attached to string, to facilitate their removal. Ordinarily he prefers sterilized gauze. Dry cotton, as frequently introduced, is not reliable as a hæmostatic. If the cervix is somewhat dilated, the tampon should first be placed very firmly into it, and then in like manner into the vagina from the fornices to the vulva. When the material used as a tampon is compact and firmly introduced at every step in its introduction, we may hope to arrest hemorrhage fairly well, and at the same time stimulate dilatation of the os. This may be removed, and if the os is not sufficiently dilated to introduce the hand into the uterus, ought to be replaced with the same care until dilation does ensue. In a case of central placenta prævia, if considerable lateral separation would seem to be required, he would prefer to pass the hand directly

through the placenta and expect less hemorrhage than from an extensive lateral separation, since most of the hemorrhage is from the bleeding mouths of the uterine vessels, and not from the placenta. This principle of treatment was adopted in the above case, and although well nigh exsanguinated, after being stimulated by hypodermic injections of strychnine, digitalin and whisky, together with the application of external heat, was delivered with very little bleeding, and without much difficulty, and the delivery consumed but a few minutes. As frequently occurs, the child was dead. The woman made an uneventful recovery, but was a little slow to recover from the anæmia.

Drs. Wm. F. Bacon and J. Frank Small, of York, reported having seen a few cases of cerebro-spinal meningitis.

Dr. Alex. Craig, of Columbia, reported on the good effects he had observed years ago, of free venesection in cases of cerebro-spinal meningitis. His experience led him to place but little confidence in the medicinal treatment usually employed in such cases.

Dr. Rice, of McSherrystown, reported having obtained good effects from the use of large doses of bromides, frequently repeated, at first every hour, in cases of cerebro-spinal meningitis.

G. E. Holtzapple,
Corresponding Secretary.

PERMANGANATE OF POTASSIUM FOR FISSURES OF THE NIPPLE.

Dr. Dombrowski (*Le Progres Medical*, January 7, 1899) advises to paint the nipple three or four times daily with a solution of permanganate of potassium, two per cent. to five per cent. The fissures will disappear under this treatment in less than a week. This remedy causes considerable smarting at first, but this soon disappears. Nursing is not interfered with, but the breasts should be washed before each feeding with warm sterilized water, and a compress covered with a permeable cloth should be used.—(Medical Standard.)

Excerpts from Current Medical Literature.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY G. E. CURRY, M. D., OF PITTSBURG.

EXTRACTS FROM CURRENT LITERATURE.

Thompson (Ophthalmological Society United Kingdom) presented a man aged 18 years, with congenital absence of the choroid; with the ophthalmoscope a dazzling white sclera was seen over the entire fundus, except at the macula. A few isolated choroidal vessels could be seen. The vision equalled one-tenth (20-200).

Grandenigo (*Ann. d. Mal. del 'Orecille, du Larynx*, Etc., Dec. '98) states that papillitis occurs in about fifty per cent. of the endocranial complications of suppuration of the middle ear, in non-complicated suppurations the papillitis is scarcely ever present. In some instances of extra dural abscess the optic neuritis may be the only symptom. When the endocranial lesion is relieved papillitis subsides.

Peck (*Pediatrics*, December 15, 1898) records an instance of traumatic cataract in an infant's eye resulting from pressure of forceps. The right blade of the forceps was displaced so as to cross the right eye and produce pressure on the lower lid. The eyelid was swollen and a large sub-conjunctival hemorrhage was present; the pupil was partially dilated, and the cornea had a steamy appearance. The lens changed from a dull gray to a white color and became entirely cataractous in twenty minutes' time.

Philips (*British Med. Journal*, February, 1899), believes ophthalmia tarsi to be nothing else than a pustular eczema of the lid, and that the disease is in nowise allied to struma or scrofula. He deprecates the terms blepharitis ulcerosa, blepharitis squa-

mosa, acne-like type, chronic hypertrophic blepharitis, seborrheal type, eczematous form, etc., stating that they have only a clinical and no pathological significance. All forms are due to pus infection, even if pustules are not visible.

For the treatment of these conditions, he uses a one per cent. ointment of oleate of mercury. This is made by melting the mercury oleate and paraffinum molle together; this insures a more intimate mixture. The oleate of mercury is preferred, because it is more penetrating, more soluble, more disinfecting and less irritating than the insoluble oxide of mercury usually employed in the treatment of this condition.

Dianoux (*Annals d' Oculistique*, October, 1898), in discussing the ocular disturbances arising in diabetes, stated that soft cataract developed exclusively in young people with acute or pancreatic diabetes and becomes complete in a few months. Rapid cataract in an adolescent should cause suspicion of diabetes. In the chronic form of diabetes, he doubts whether cataract is any more frequent than in elderly people, who are not diabetic. Operation for senile cataract may be perfectly successful in the diabetic; whereas operation in diabetic soft cataract is frequently followed by pulmonary apoplexy and death; in any case the patient rarely lives more than 12 or 15 months.

Retinal hemorrhages occur exclusively in old people; the fact that they do not occur in the young makes him believe that they depend on arterio-sclerosis rather than diabetes. The hemorrhages always take place from veins or capillaries, never from arteries.

Central scotomata are sometimes hard to differentiate, as the diabetics frequently indulge in the use of alcohol and tobacco, but unlike scotoma from these causes, diabetic scotoma never disappears.

As a pleasant vehicle, elixir aromaticus, U. S. P., will be found excellent.

Current Medicine.

THE KRAG-JORGENSEN BULLET WOUND.

At my request, Dr. Mariano Ojuna, surgeon-in-chief of the military hospital at Santiago de Cuba, kindly sent me, on August 19, 1898, some notes which I offer as a small but interesting contribution to a very important subject. Dr. Ojuna regretted his inability to prepare a more elaborate report, being at the time exceedingly busy in superintending the transfer of the sick and wounded to the Spanish transports. But first a few preliminary remarks.

He states that 541 wounded—43 officers and 498 men—came into the military hospital for treatment. Of the killed he makes no mention. As this hospital was the only available one, we may infer that all the wounded really hors de combat were admitted to it. On the other hand, according to the official Spanish report, the casualties were as follows: Killed, officers, 17, men 107; wounded, officers 59, men 556; missing, officers 7, men 116.

As this report includes the few navy casualties which occurred before the destruction of Cervera's fleet, and likewise accounts for a certain number of slightly wounded men who never entered the hospital, the discrepancy between it and Dr. Ojuna's figures is sufficiently explained. We may note, incidentally, that the above statistics show a proportion of casualties of about 10 per cent.—1.7 killed and 8.3 wounded. On our side the total casualties at San Juan Hill were about 14 per cent.—1.86 killed and 11.14 wounded. The ratio of killed to the whole number struck was one-fifth among Spanish, and one-seventh among American troops.

In order to justly appreciate the results described by Dr. Ojuna, it should be remarked that the hospital where all these cases were treated is an old building without adequate water supply and without sewerage, the excreta being emptied into a large pit; it was also at that time crowded to

two or three times its normal capacity: in a word, it appeared beyond the possibility of good sanitation. To this we may add that proper food and several important medicines were scant and became entirely exhausted. Dr. Ojuna's notes, freely translated, are as follows:

" * * * Since the beginning of hostilities, 45 wounded officers were admitted to this hospital; 26 have been discharged cured and 7 died; of the others only two were serious cases: one with comminuted fracture of the left tibia, already united and nearly well, the other with a fracture of the same bone but loss of over a centimeter of substance nearly throughout its thickness; in this case a cure is also expected, in time.

"All these wounded, with hardly an exception, never had any fever. They were mostly treated with solution of corrosive sublimate, iodoform, iodoform gauze and absorbent cotton; that is, with antiseptic dressing, changed only every two or three days, according to indications. There were fractures of various bones, such as humerus, ulna, radius, and those of the carpus, tarsus, and metatarsus, but I did not observe a single case of arthritis, nor the slightest complication. As an interesting fact, worth special mention, I did not have to perform a single amputation among all the wounded officers.

"Of the seven who died, two had the skull fractured by fragments of shell, with protrusion of brain matter, while the other five succumbed to internal hemorrhage or peritonitis.

"Of the wounded soldiers, 498 were admitted; 34 died of purulent infection, tetanus, internal hemorrhage and severe wounds of the skull and brain, the latter causing the greater part of this mortality. There now remain only 47 cases which will require ambulance transport to the ship.

"The parts involved were mostly the extremities, inferior and superior, much more rarely the chest, head, and abdomen. Very many cases were of great gravity, but

thanks to the treatment pursued, the skill of surgeons and the sanitary care of the attendants, all dangerous symptoms subsided in a few days and the cure followed a normal course, the wounds remaining completely aseptic. Here also the striking fact must be stated that not a single amputation was required or performed, a result speaking high praise for the conservative surgery always advocated by Spanish surgeons, as well as for the treatment followed.

"As a general rule, the bullet passed through the body or limb, making two clean holes, those of entrance and exit. Some wounds had no hole of exit, but in most of them the bullet lodged near the skin and was easily extracted.

"In the case of an officer, the bullet ranged through the face: the hole of entrance was very small and otherwise normal, but that of exit was much larger, with irregular, ragged edges, burnt and discolored by grains of powder; there was much destruction of tissue and healing was very slow. I believe this case was produced by an explosive bullet, such as the insurgents had frequently used before, and that an insurgent was the author of this outrage against the laws of war. Never did the thought enter my mind that it could be imputed to our loyal enemy, the Americans. * * *

"The average time required for the healing of the majority of our wounded was from 20 to 25 days, even of those most gravely hurt; penetrating wounds of abdomen and chest recovered in a proportion of 70 per cent. with amazing rapidity, without leaving any complications. * * *"

These notes, incomplete as they are, corroborate the observations made among our own wounded of the effects of the Spanish Mauser bullet, and justify us in formulating the following conclusions:

1. The rapid-firing, long-range modern rifle, with small steel-jacketed bullet, does not produce a larger percentage of casualties than the weapons used in our Civil War or the Franco-Prussian War.

2. The proportion of killed to the wounded is less than before.

3. Wounds heal with astonishing rapidity, even a majority of those penetrating the abdomen and chest, so fewer deaths occur in field hospitals.

4. Few, if any, primary operations are now performed, and amputations (except as a result of artillery fire) are hardly ever required.

In view of the unsanitary state of the Spanish hospital, and the, perhaps excessive, conservative attitude of the surgeons, the results obtained are certainly very remarkable, and show what, despite adverse conditions, we may expect from an aseptic bullet, rest and antiseptic treatment. These results are, on the whole, better than those obtained on our own side, and the reason must be the necessary and often rough transport to which our wounded were subjected, first from the front to the field hospital, then from the hospital to the seashore, from the beach to the hospital ship, and so on, until they reached their final home destination.—(By Lieut.-Col. Valery Havard, Chief Surgeon U. S. Volunteers, Bridgeport, Conn.)—*Jour. Am. Med. Asso.*

RABIES IN AMERICA.

The New York Board of Health has performed a distinctly meritorious as well as scientific service to the American medical profession in seriously taking up the investigation of the existence in this country of rabies or hydrophobia. The results of that investigation up to date are presented in Dr. Follen Cabot's paper which appears in this issue. Those interested in the subject (and what medical man is not?) will find some further interesting facts in the discussion of Dr. Cabot's paper at the meeting of the Section on General Medicine of the New York Academy of Medicine, which is also published in this number.

For various reasons a certain amount of doubt has existed in many, even medical, minds, as to the occurrence in this country

of genuine hydrophobia. From this false assumption has come at times the thought, not infrequently expressed, that hydrophobia in Europe might be only a delusion, a severe functional neurosis on a psychic basis, rather than the dread disease itself. Pasteur's reputation as a great scientist has suffered in the minds of many American physicians because of his invention of the preventive treatment of rabies. Certain American views on this matter have been the subject of no little opprobrium abroad. The calm assumption by certain people that practically the whole profession of several great European nations could be utterly deceived on a subject like this was almost too much to forgive to even American self-sufficiency. The quizzical looks that gathered on Russian doctors' faces at the last International Congress at Moscow, when an American medical visitor said that there were doctors in America who doubted the existence of hydrophobia, was one of the silent but indelible impressions of the meeting. The Russians could only think of it as a huge joke after the American fashion, for rabies needs no special seeking to be found in Russia.

Cabot's work, in connection with the laboratory of the New York City Board of Health, shows that rabies unfortunately does exist in this country. A number of indubitable cases have occurred recently on Staten Island. There were, not long ago, at least two foci of the disease in New Jersey, as the discussion at the New York Academy of Medicine shows, while Dr. Frothingham is authority for the statement that a series of cases of true rabies is in progress, at least among animals, in the vicinity of Boston. We have reported in our columns two cases from Long Island within the past two months in which inquiry among medical men who had been close to the patients gave us practically the assurance that they were cases of true rabies. We printed the report of a case from one of the Western States not long ago, and we

publish two more this week in which the evidence seems conclusive that the disease at work was genuine rabies.

Now, our object is not to raise a disquieting mad-dog scare, nor to terrify people accidentally bitten by a perfectly healthy pet animal into rushing off to receive the Pasteur preventive treatment for rabies. Even when bitten by a really rabid animal the chances of hydrophobia developing in any particular case are not very great. Bites are often through the clothing and the infectious material is absorbed from the fangs by the cloth and does not reach the circulation, and in cases in which the bites are on exposed parts of the person bitten is in many instances not susceptible to the disease at the moment and escapes infection. We wish merely to insist on the fact that rabies exists among us here in the United States and that proper precautions to prevent its spread are necessary.

There are entirely too many vagrant animals on our streets. They are liable to be the sources of other diseases besides rabies. Dr. Cabot's and Dr. Frothingham's remarks as to quarantine and the registration of dogs deserve the most serious attention. An educated public opinion in the matter will do much to make possible the enforcement of existing laws and smooth the way for future enactments. Too many medical men in this country have held halting views on the subject of rabies, and the result has been a failure to disseminate among the public well-grounded, intelligent information regarding the regulation of the life and habits of dogs. Proper precautions rigidly enforced for a few months with observation of suspected animals would rid us entirely of all danger in the matter. Let us hope that the work so well done by our Board of Health will not be unproductive of beneficial results.—(Editorial in Medical News.)

Eupatorium, U. S. P., is valuable, in the form of hot tea, as a sudorific and eliminant in rheumatism.

INFLUENZA BACILLUS.

According to Pfeffer, Canon, Klein and many other observers, influenza is caused by very minute bacilli which develop in the nasal passages, throat, larynx, bronchial tubes and blood. The organisms are present in great numbers in the bronchial secretions, and are described as occurring only during the acute stages and gradually disappearing as the disease abates. They are said to be constantly present in influenza and not to be found in any other disorder. These bacilli, we are told, are non-motile, and so far as is known do not produce spores. The length is given as 0.5 and the diameter as 0.2 micro-millimeters. They are usually solitary, sometimes in pairs or may be arranged in chains of a few elements. Some observers claim that they are occasionally seen in masses, especially in severe cases. They have been met with also inside of the leucocytes of the sputum. They are said to stain poorly except with certain concentrated, very penetrating stains, and even with these only the ends of the organisms stain well, the middle portion remaining almost unstained.

Kitasato describes certain culture characters by which the bacilli can be readily known. The resisting powers are limited. They quickly die when dried, and are killed within five minutes when exposed to a temperature of 60 degrees C. They will not grow well at a temperature below 26 degrees C. nor above 35 degrees C. when developed on artificial media. Very few materials can be made use of for their cultivation. The best has been found to be blood serum which contains a little hemoglobin. Upon this, after a few hours' incubation, "colorless, transparent drop-like colonies" appear, which are said to resemble "condensed moisture." The colonies have no tendency to coalesce, and even under the most favorable conditions soon die unless frequently transferred.

Such in the main is the bacillus of influenza as described by a number of investiga-

tors. In December, 1898, the Chicago Department of Health made arrangements whereby some study could be given to the etiological factors of the widespread epidemic of influenza in this city. Prior to this time when making examinations for suspected cases of diphtheria a very small bacillus was occasionally noticed, which, in its morphological characters, corresponded to the organism described by Pfeffer. In order that a more extended observation might be made a few physicians were asked to send the sputum of their influenza patients to the laboratory for experimental purposes. Culture outfits were also prepared for their use. These were put up the same as those used in the diagnosis of diphtheria, excepting the blood serum contained more hemoglobin. Human serum was used to some extent, but finding that the serum of beasts' blood containing hemoglobin answered every purpose it was decided to use it altogether. Upon this medium cultures were made from the mucous membrane of the tonsils and pharynx, and from the bronchial secretions of persons ill with influenza. In many of these cultures the small organism above referred to was found, and in a few instances in a stage which is almost pure. From the cultures which were comparatively free from other bacteria transplantations were made to bouillon, a drop of which was immediately transferred to the surface of blood serum. Three tubes or boxes of serum were usually inoculated from the one drop, and by this means isolated colonies were easily obtained in the second or third tube.

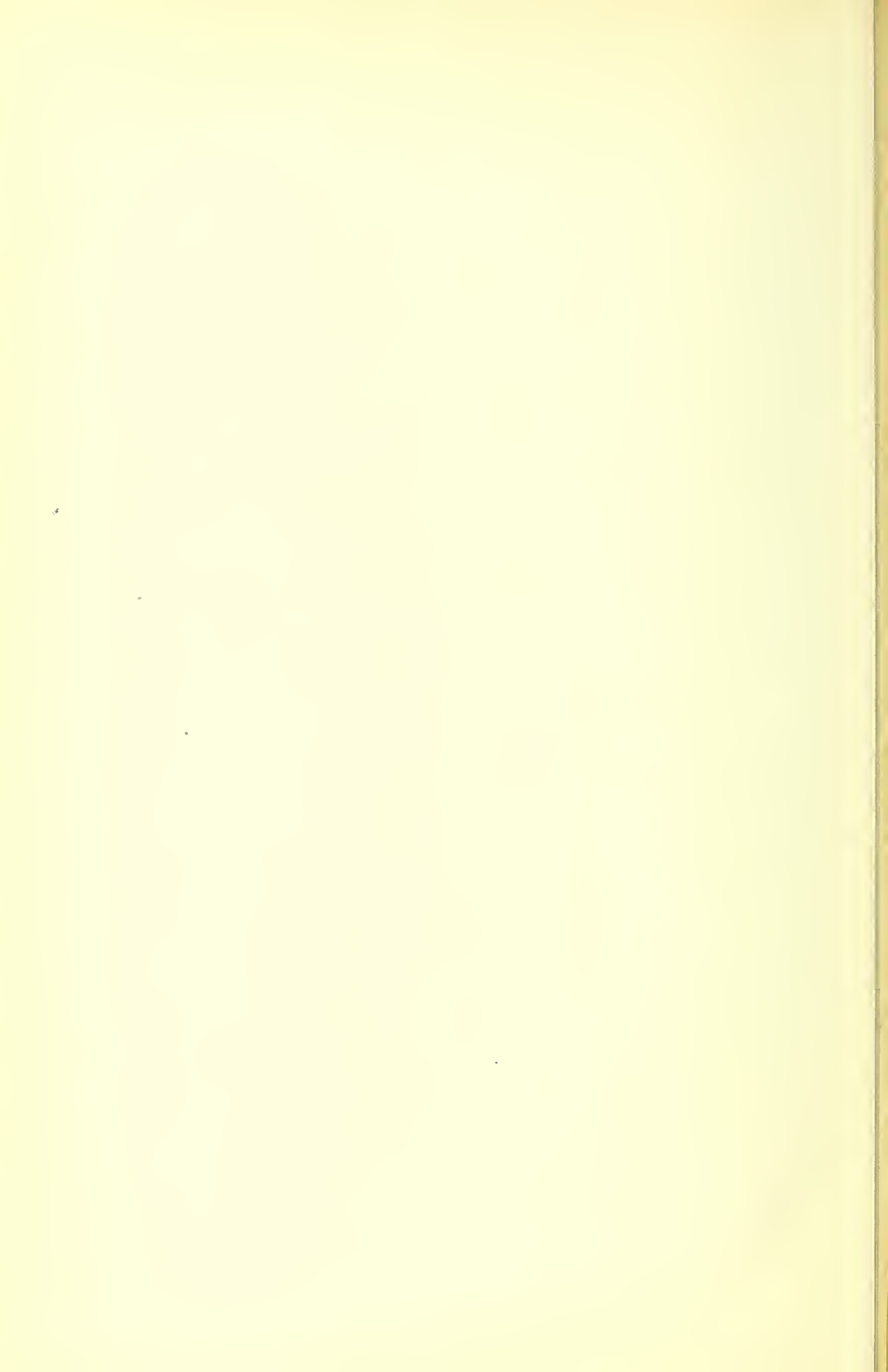
The organism separated in this manner was found in many cases of undoubted influenza, and in its morphological, biological and pathogenic characters conforms to the one described in the works on bacteriology. The size and shape are the same, and when examined in the sputa so also is the arrangement. Usually the bacilli were found solitary, sometimes in short chains. When a slide was made from a culture, how-

ever, they are more often seen in masses. Carbolfuchsin seemed to be the best stain. Other staining solutions were used but were not satisfactory. When an examination was made after a culture had been incubated eight or ten hours, the organism stained quite evenly, but after thirty-six to forty-eight hours' incubation the characteristic uneven staining was noticed. Blood serum was used almost exclusively as a culture medium, upon which growths were obtained that were characteristic and beautiful. They were clear and transparent, and, in a measure, resemble minute drops of water. The life cycle is exceedingly short and uncertain. The cultures frequently die within two days unless transferred to fresh media. In bouillon, development occurred very slowly, and, in some instances, not at all, unless a little blood or hemoglobin was added, which caused a more abundant growth. The culture broth did not become cloudy, but remained clear and the colonies as irregular whitish gray masses were noticed at the bottom of the tube.

In a few cases an examination of the blood of the influenza patients was made, but the bacilli could not be found.

Certain of the pneumonia organisms resemble the influenza bacillus. One, which is a lanceolate bacillus, is quite similar in its microscopical appearances. Upon a close observation, however, it is seen to be a little longer and with ends which are more pointed. It is more easily stained than the bacillus of influenza, and its ends do not become so deeply colored. The colonies on blood serum are not so clear and transparent, but have a tendency to become somewhat opaque.

In several instances the bacillus of diphtheria and the bacillus of influenza were found at the same time in the throats of patients, and the clinical symptoms usually supported the bacteriological findings.—(F. E. Wynekoop, M. D., in *Medical Standard*.)



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